TOSHIBA

FILE NO. 2B0-9903

SERVICE MANUAL

CORDLESS TELEPHONE

FT-8509

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SAFETY PRECAUTIONS

Before returning any models to the customer, a safety check of the entire instrument should be made. The service technician must be sure that no protective device built into the instrument by the manufacture has become defective or inadvertently degraded during servicing.

1.WARNING:

Alterations of the design or circuitry of these models should not be made.

Any design changes or additions such as, but not limited to, circuit modifications, auxiliary speaker jacks, switches, grounding, active or passive circuitry, etc. may alter the safety characteristics of these models and potentially create a hazardous situation for the user.

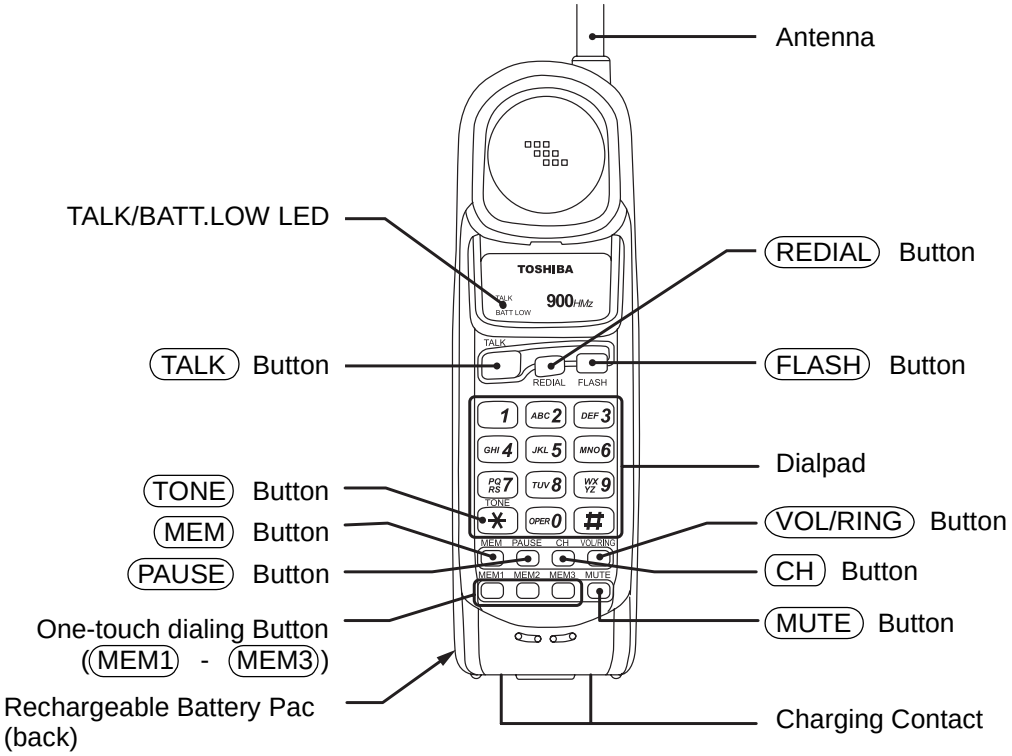
Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

2.PRODUCT SAFETY NOTICE

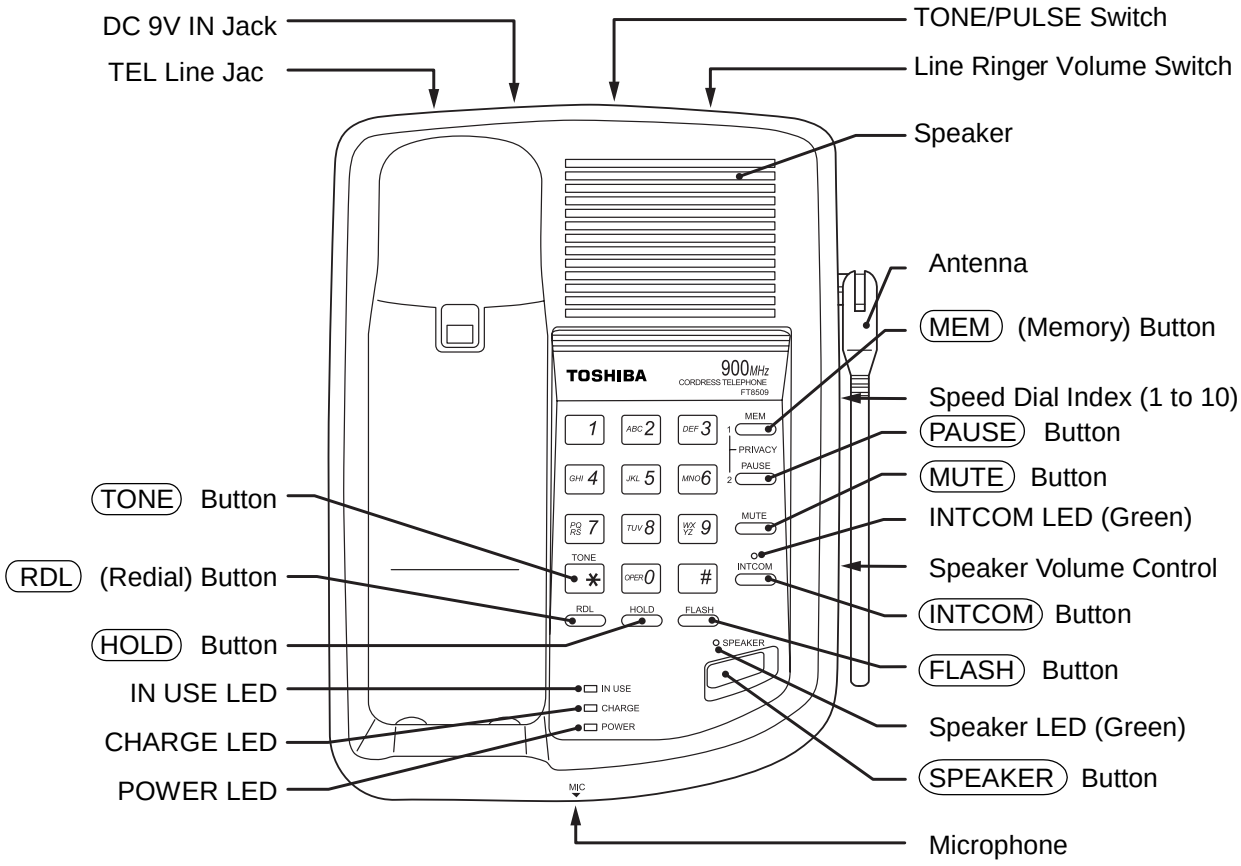
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features ar identified by a ⚠ in the schematic diagram and th parts list. Before replacing any of these components, read the parts list in this manual carefully. Th use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

OPERATING CONTROLS

HANDSET CONTROLS AND FUNCTIONS



BASE UNIT CONTROLS AND FUNCTIONS



ALIGNMENT PROCEDURE

Test Mode For Base Unit

Press the "✳" and "#" keys at the same time about 1.5 seconds while turning the power on, the confirmation beep will sound to indicate that the unit is in the test mode.

1. To change the TEST mode: Press the number key for the corresponding TEST mode. (Refer to the following table)
2. To change channel: Press the "RDL" key, but if changing the step, the channel returns to the start channel.
3. To cancel Test mode: Bell rings, charge the Handset or Power off.

STEP	FUNCTION	KE	START CH	TX CONT	TX MUTE	RX MUTE	RL CONT	REMARKS
1	VO/TX FRQ. ADJ	1	19	L	L	L	L	
2	TX MODE CHECK	2	19	L	H	L	H	
3	TX DATA	3	19	L	L	L	L	*1
4	RX SENS.	4	19	H	L	H	H	
5	SQ SENS.	5	19	L	L	H/L	H	*2
6	RING CHECK	6	19	H	L	L	L	
7	DUAL TONE CHECK	7	19	H	L	L	H	*3
8	DATA IN CHECK	8	19	L	L	L	H	*4
9	CHANNEL DATA CHECK	9	19	H	L	L	L	*5
10	DUPLE	0	19	L	H	H	H	
11	INT COM	MEM	19	L	H	H	L	

*1 : "0000..." (250Hz) will be fed out continuously as transmitting data.

*2 : Bell rings when sensing SQ.

*3 : Every pushing of FLASH key makes tone change. (In the case of Dual Tone, changes as 1⇨2⇨3⇨4⇨5⇨6⇨7⇨8⇨9⇨0⇨∗⇨#⇨1.)

DTMF Frequency

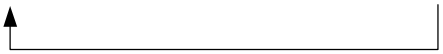
ROW1 : 697	ROW2 : 770
ROW3 : 852	ROW4 : 941
COL1 : 1209	COL2 : 1336
COL3 : 1477	

*4 : Bell rings when the received data are "0000..." (250Hz).

*5 : Charge LED lights when detecting Charge ON.

Channel rotation

19 ⇨20⇨21⇨40⇨1⇨2⇨3⇨4⇨5.....37⇨38⇨39⇨40



Test Mode For Handset Unit

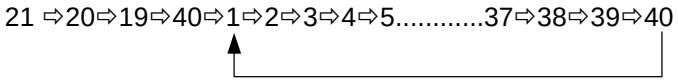
To perform the TEST mode, turn the power ON by pressing the "✳" and "#" buttons at the same time.
When entered the TEST mode, the bell rings and the unit enters TEST mode 1. (Refer to the following table.)

1. To change the TEST mode: Press the number key for the corresponding TEST mode.
   (Refer to the following table)
2. To change channel: Press "CH" key.
   (Note: If the step is changed, the channel returns to the start channel.)
3. To cancel the Test mode: Turn the power OFF, charge the Handset, or press the "TALK" key.

STEP	FUNCTION	KE	START CH	TX CONT	SC	$\overline{\text{TX MUTE}}$	$\overline{\text{RX MUTE}}$	CONV	REMARKS
1	VO/TX FRQ. ADJ	1	21	L	H	L	L	H	
2	TX MOD. CHECK	2	21	L	H	H	L	L	
3	TX DATA	3	21	L	H	L	L	L	*1
4	RX SENS.	4	21	H	H	L	H	L	
5	SQ SENS.	5	21	L	H	L	*A	L	
6	RECEIVE DATA CHECK	6	21	L	H	L	L	H	*2
7	BELL	7	21	H	L	L	L	H	*3
8	BATTERY LOW CHECK	8	21	H	L	L	L	H	*4
9	CHARGE CHECK	9	21	H	L	L	L	H	*5
10	DUPLE	0	21	L	H	H	H	L	

*A : Squelch ON is H, or Squelch OFF is L.
*1 : In the TEST mode 3, "0000..." will be fed out continuously as transmitting data.
*2 : In the TEST mode 6, bell (1kHz) rings when the data received is "0000...".
*3 : In the TEST mode 7, bell rings with initial 2 tone (2kHz, 2.2kHz).
*4 : In the TEST mode 8, bell (1kHz) rings when P_BATLOW is "L".
*5 : In the TEST mode 9, bell rings when P_CHRGIN is "L".

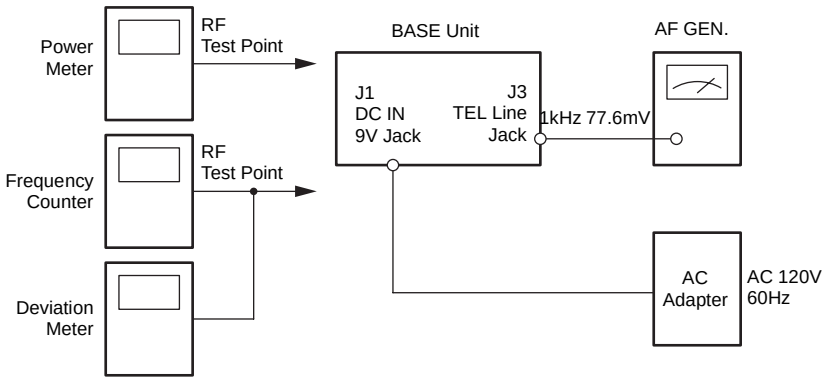
Channel rotation



Base Unit

Transmitter Section

Connections



Preset

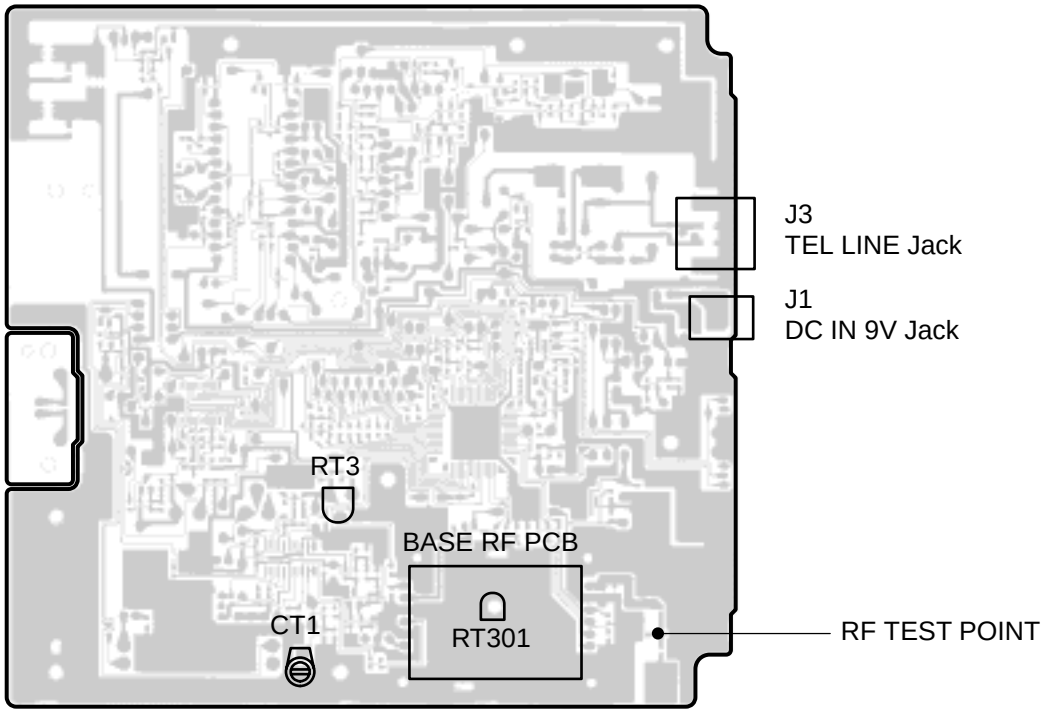
Place the Base unit in VCO/TX FREQ. ADJ mode in accordance with the procedure on page 3.

Alignment Procedure

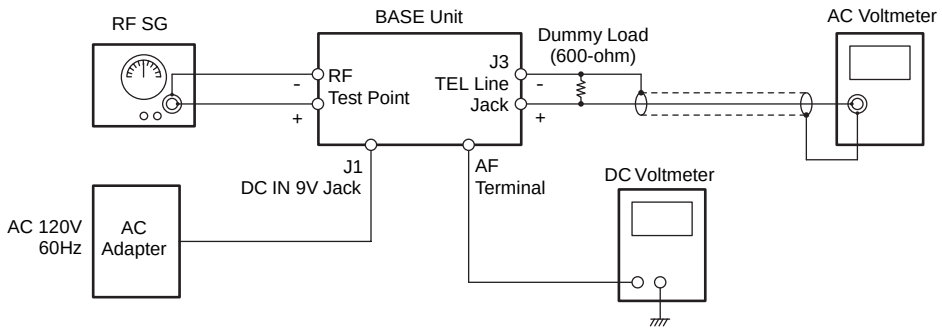
step	Adjustment	Remarks
1	RT301 (TX Power)	Connect the Power Meter to the RF test point on the Base MAIN PCB. Adjust RT301 for a -5.0dBm reading on the Power Meter.
2	CT1 (TX Frequency)	Connect the Frequency Counter to the RF test point on the Base MAIN PCB. Adjust CT1 to make sure that the frequency is 926.897468 MHz.
3	RT3 (TX Modulation)	Press the “2” key to enter the TEST Mode 2. Connect the AF Generator to the TEL Line Jack on the Base Main PCB. Make sure that the output is 1 kHz 77.6 mV from the AF Generator. Connect the Deviation Meter to the RF test point on the Base MAIN PCB. Adjust RT3 to indicate ±8 kHz Dev.

Alignment Point Location on Base Main PCB and Base RF PCB

Base Main PCB



Receiver Section Connections



Preset

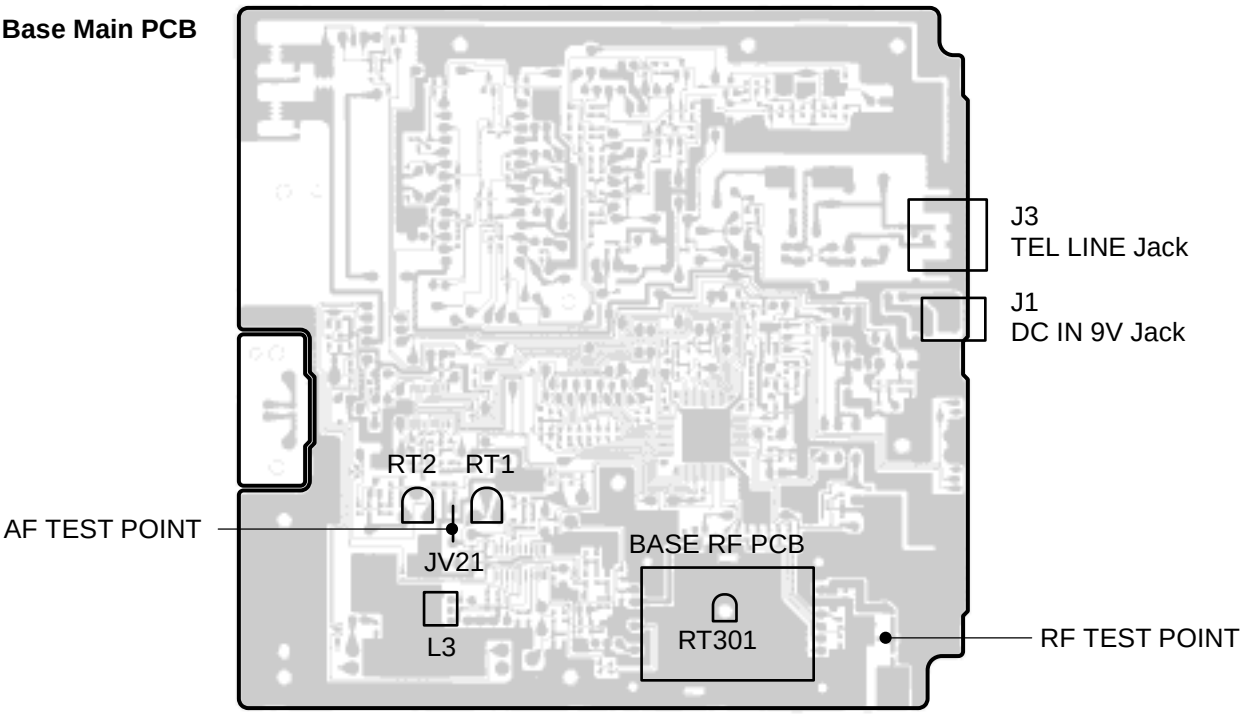
Place the Base unit in RX SENS mode (step 4) in accordance with the procedure on page 3.

Alignment Procedure

step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L3 (Discriminator Voltage)	Connect the RF Signal Generator to the RF test point on the Base MAIN PCB. Make sure that the frequency is 902.952467 MHz. Connect the DC Voltmeter to the AF test p oint (JV21). Adjust L3 to indicate DC 1.9V.
2	SG: 1mV 1kHz ±8kHz deviation	RT2 (RX AF Voltage)	Connect the AC Voltmeter across a 600-ohm dummy to the Telephone Line Jack. Adjust RT2 for a 218 mV reading on the AC voltmeter.
3	SG: -7dBµV No modulation	RT1 (SQ Point)	Press the “5” key to enter the TEST Mode 5. Make sure that the frequency of RF SG output is 902.952467 MHz. Adjust RT1 to turn to the point where the bell rings.

Alignment Point Location on Base Main PCB and Base RF PCB

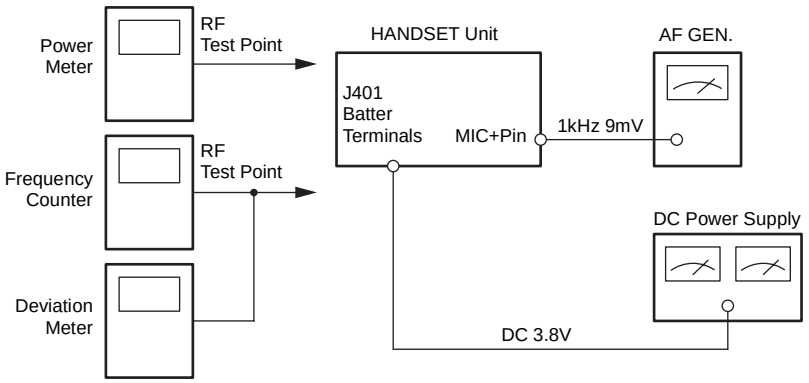
Base Main PCB



Handset Unit

Transmitter Section

Connection



Preset

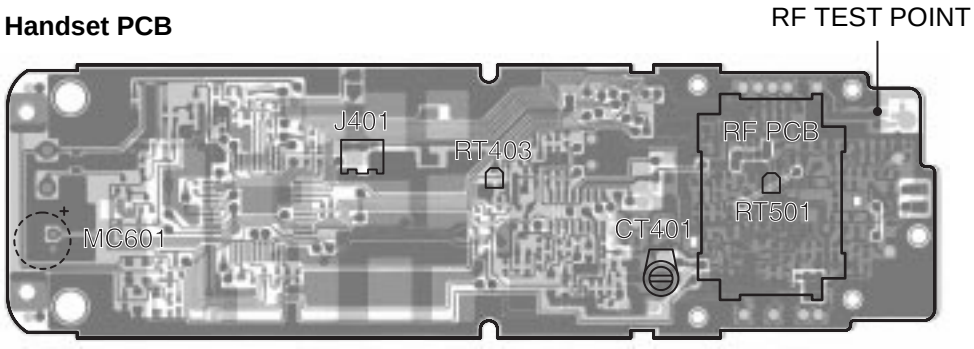
Place the Handset in VCO/TX FREQ. ADJ mode in accordance with the procedure on page 4.

Alignment Procedure

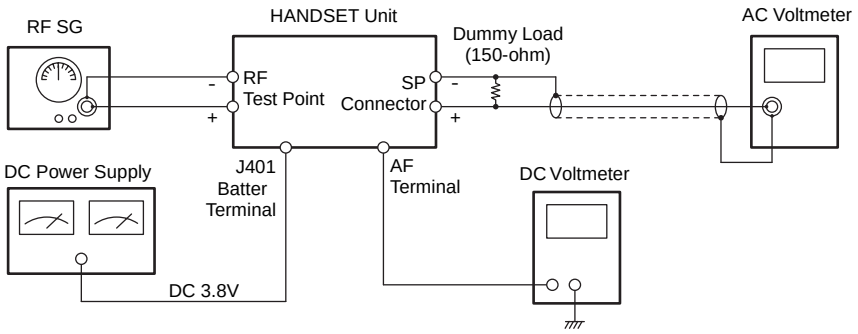
step	Adjustment	Remarks
1	RT501 (TX Power)	Connect the RF Power Meter to the RF test point on the Handset MAI PCB. Adjust RT501 for a -7.5dBm reading on the Power Meter.
2	CT401 (TX Frequency)	Connect the Frequency Counter to the RF test point on the handset MAIN PCB. Adjust CT401 to make sure that the frequency is 903.052467 MHz.
3	RT403 (TX Modulation)	Press the “2” key to enter the TEST Mode 2. Connect the AF Generator to the MIC Connector make sure that the output is 1kHz 9mV from the AF Generator. Connect the Deviation Meter to the RF test point on the handset MAIN PCB. Adjust RT403 to indicate ±8 kHz Dev.

Alignment Point Location on Handset Main PCB and Handset RF PCB

Handset PCB



Receiver Section Connections



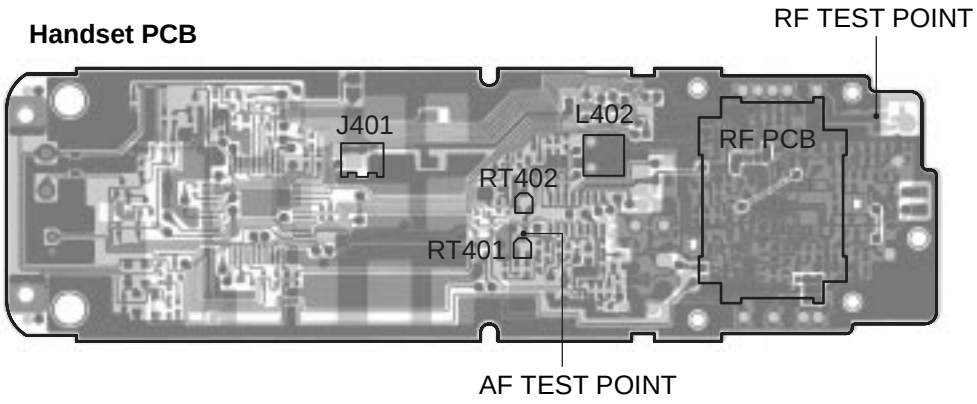
Preset

a) Connect the handset RF unit to the handset main unit.
b) Connect DC power supply to battery connector on the handset unit.
c) Turn the DC power supply ON while pressing "∗" and "#" keys, and keep pressing the key continuously for approximate 2 seconds.
d) Release keys when entering TEST mode 1 with TALK LED lighting and beep.

Alignment Procedure

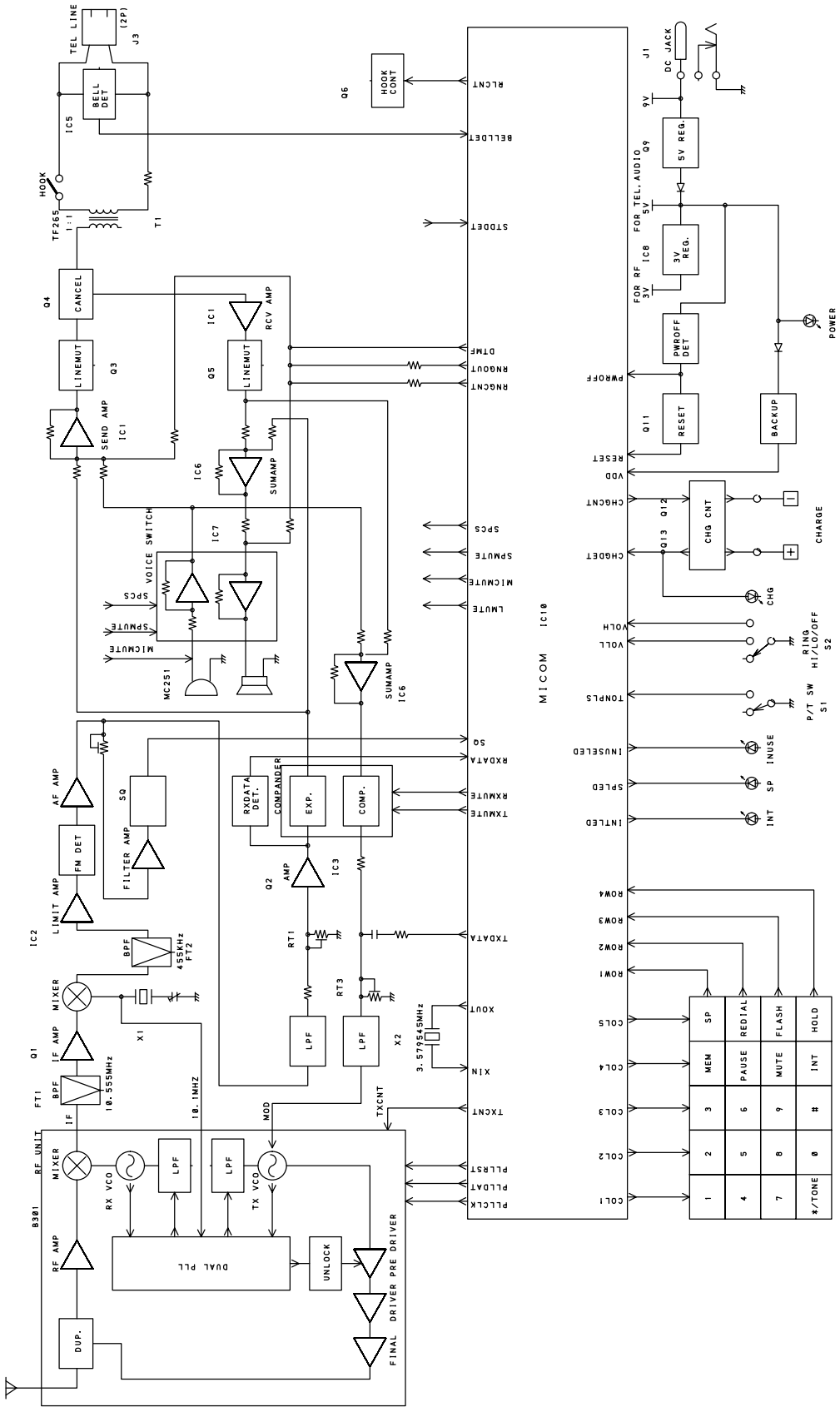
step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L402 (Discriminator Voltage)	Press the "4" key to enter the TEST Mode 4. Connect the RF Signal Generator to the RF test point on the handset MAIN PCB. Make sure that the frequency is 926.997467 MHz. Connect the DC Voltmeter to the AF test point. Adjust L402 to indicate DC 1.00V.
2	SG: 1mV 1kHz ±8kHz Deviation	RT402 (RX AF Voltage)	Connect the RF Signal Generator to the RF test point on the handset MAIN PCB. Make sure that the frequency is 926.997467 MHz. Connect the AC Voltmeter across a 150-ohm dummy to the MIC Connector. Adjust RT402 for a 128 mV reading on the AC Voltmeter.
3	SG: -7dBμV 1kHz ±8kHz Deviation	RT401 (SQ Point)	Press the "5" key to enter the TEST Mode 5. Make sure that the frequency of RF SG output is 926.997467 MHz. Adjust RT401 to turn to the point where the bell rings.

Alignment Point Location on Handset Main PCB and Handset RF PCB

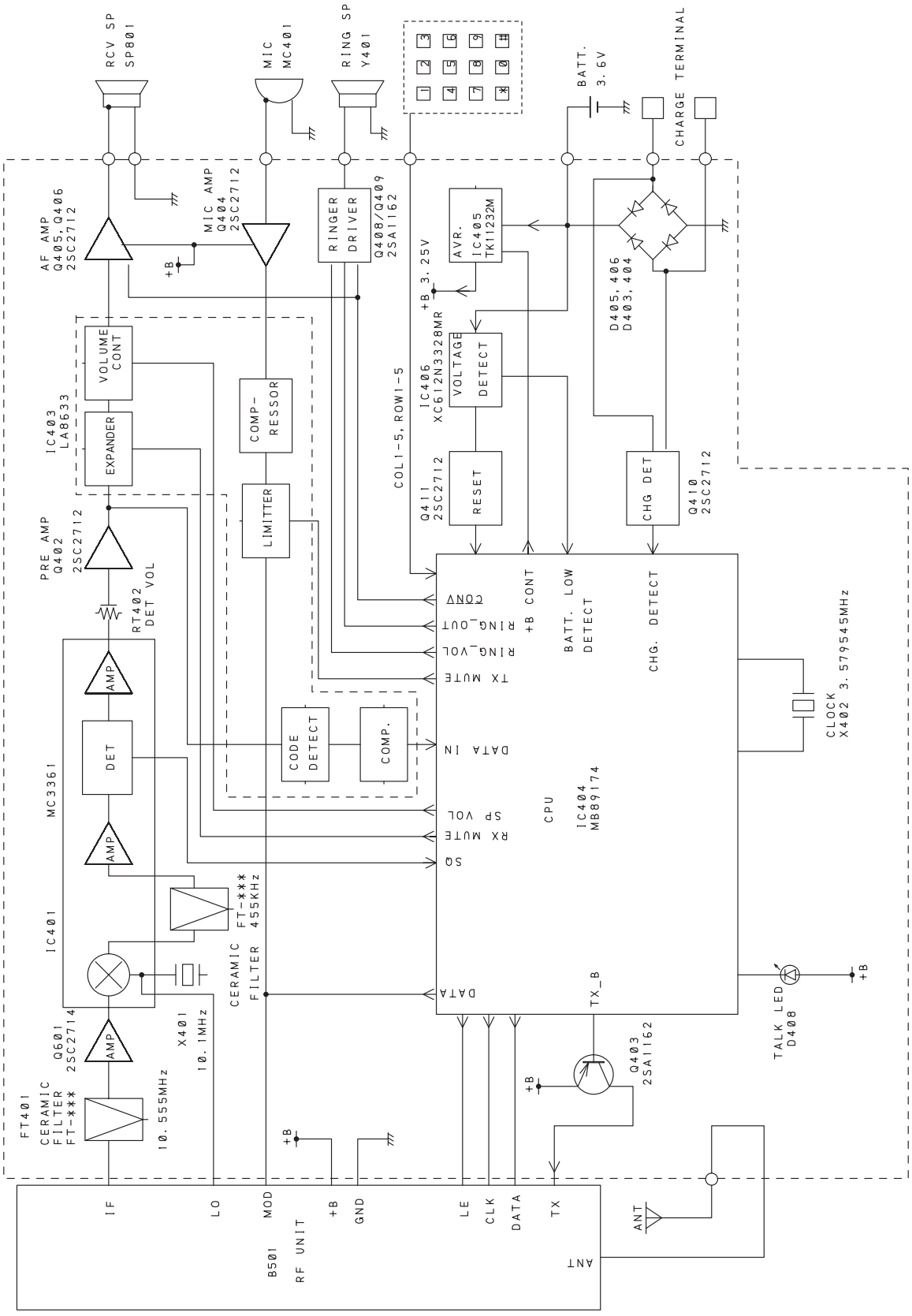


BLOCK DIAGRAMS

Base Unit

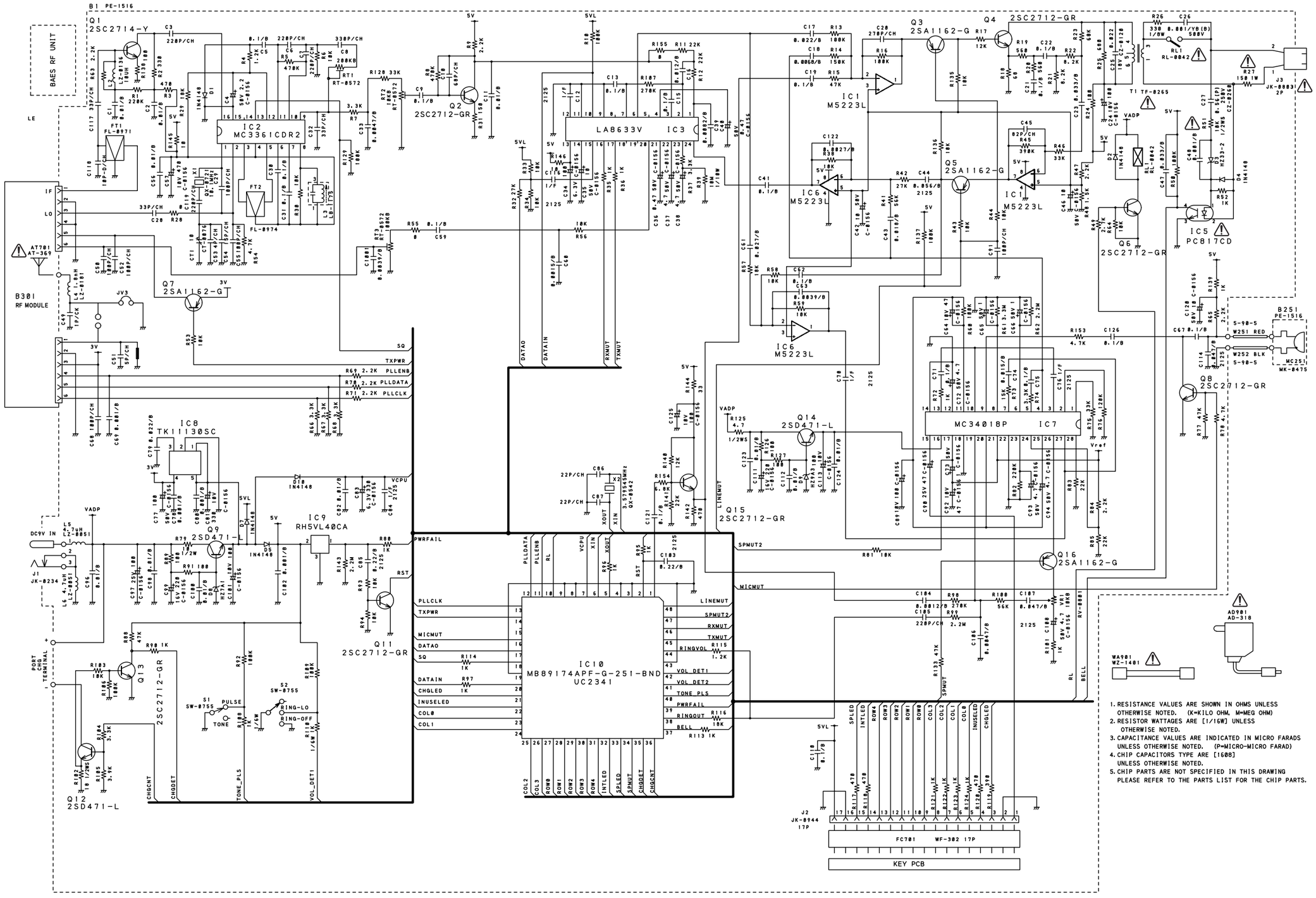


Handset Unit



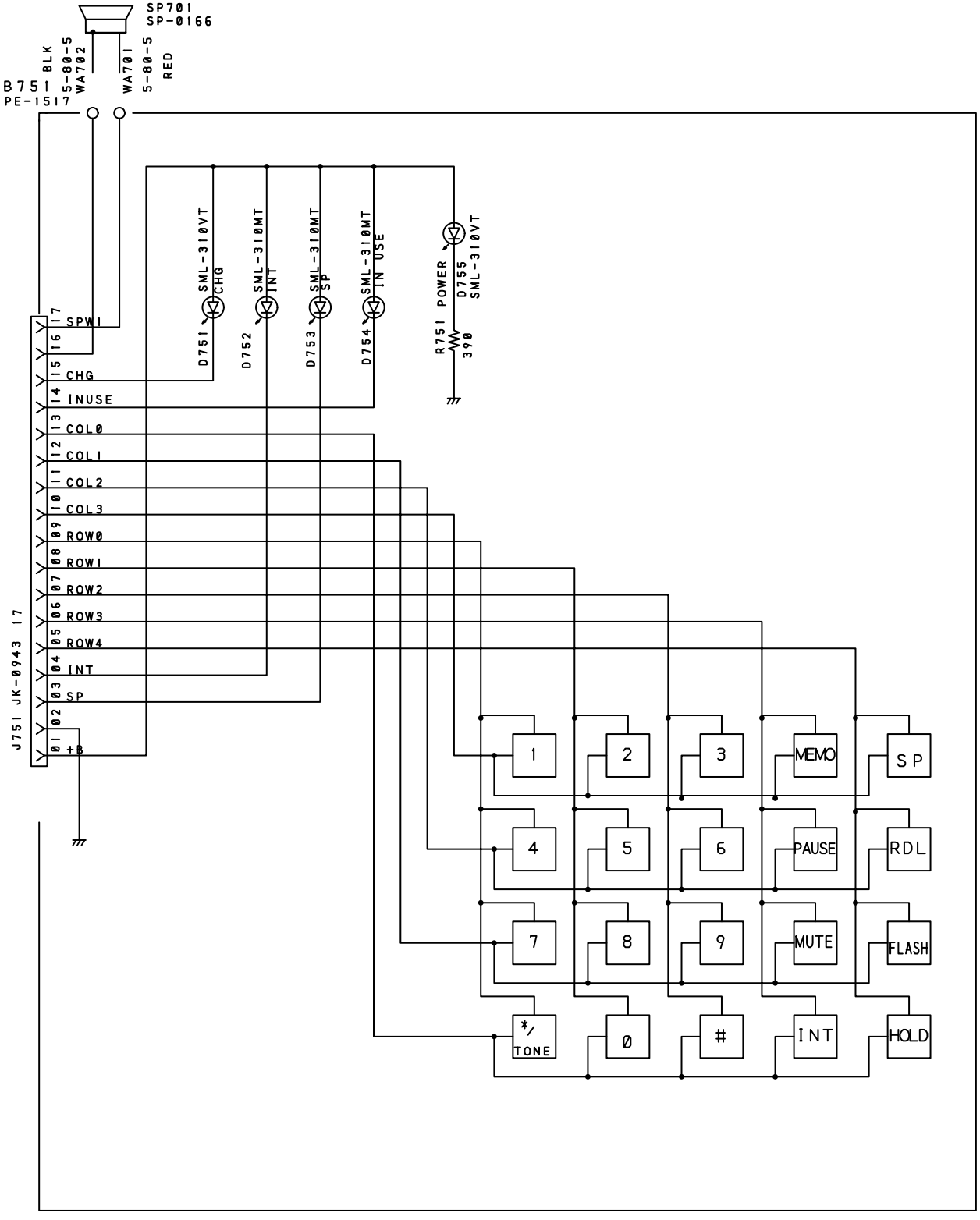
SCHEMATIC DIAGRAMS

Base Unit, Main



1. RESISTANCE VALUES ARE SHOWN IN OHMS UNLESS OTHERWISE NOTED. (K=KILO OHM, M=MEG OHM)
2. RESISTOR WATTAGES ARE [1/16W] UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (P=MICRO-MICRO FARAD)
4. CHIP CAPACITORS TYPE ARE [1608] UNLESS OTHERWISE NOTED.
5. CHIP PARTS ARE NOT SPECIFIED IN THIS DRAWING PLEASE REFER TO THE PARTS LIST FOR THE CHIP PARTS.

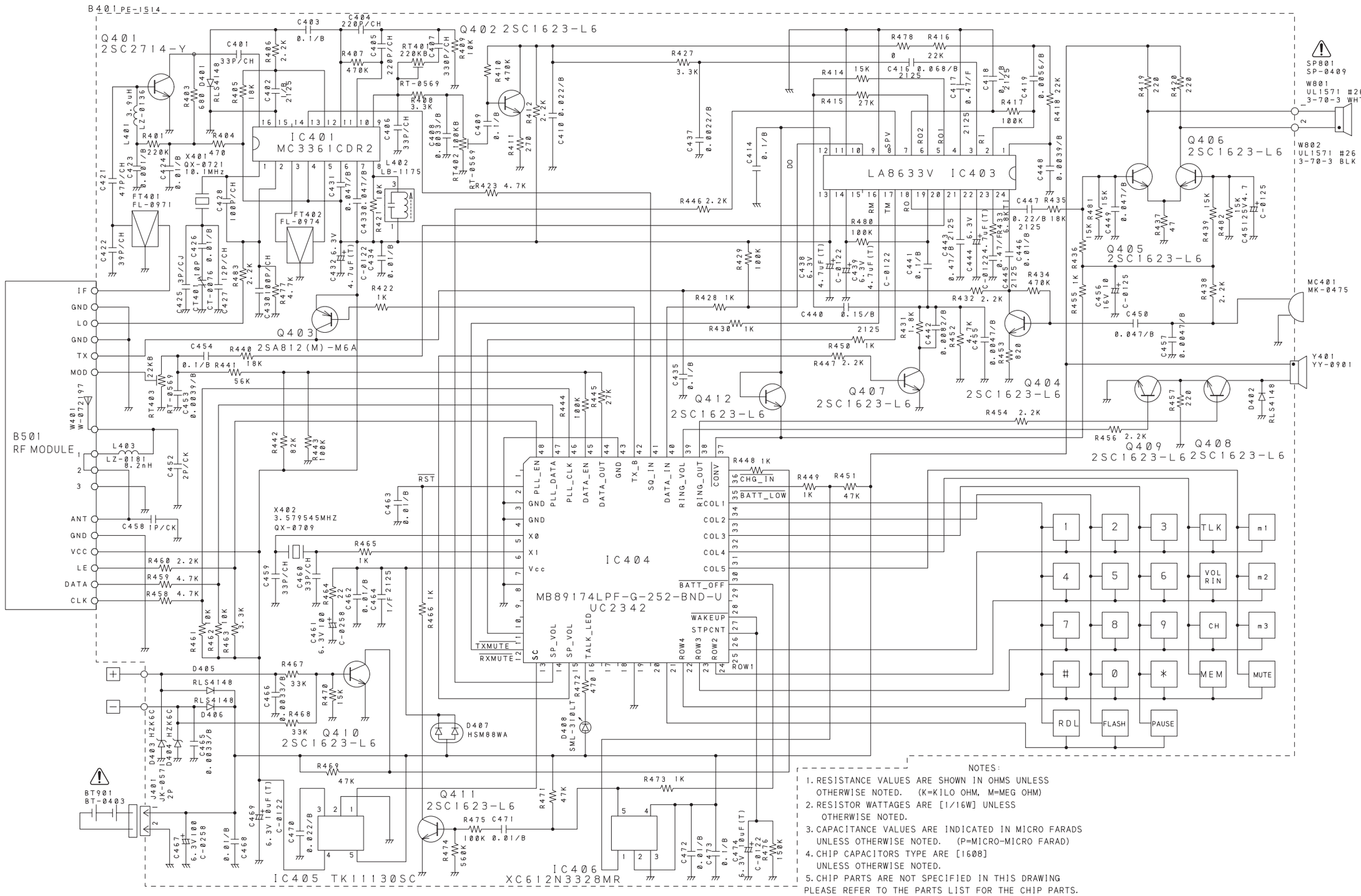
Base Unit, ke



NOTES:

1. RESISTANCE VALUES ARE SHOWN IN OHMS UNLESS OTHERWISE NOTED. (K=KILO OHM, M=MEG OHM)

Handset, Main

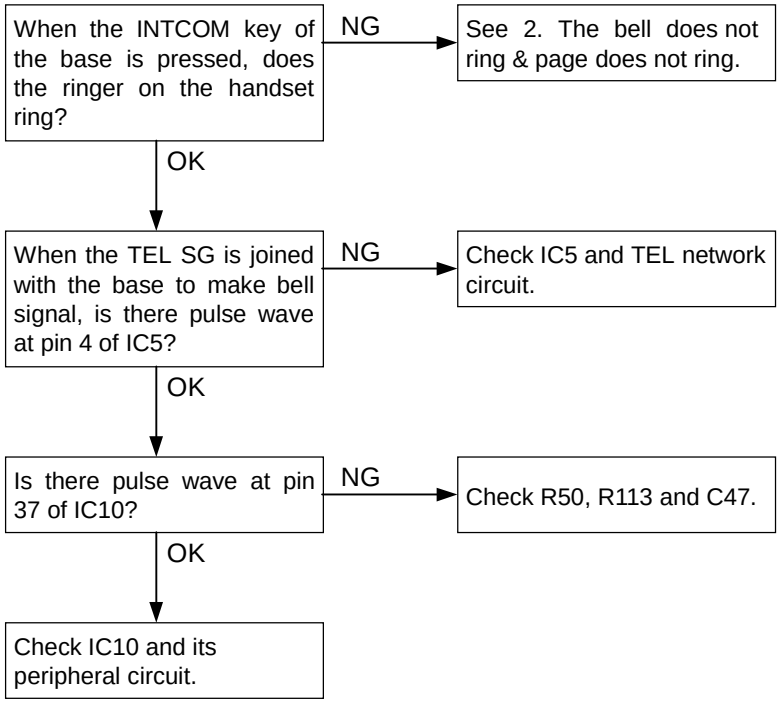


NOTES:

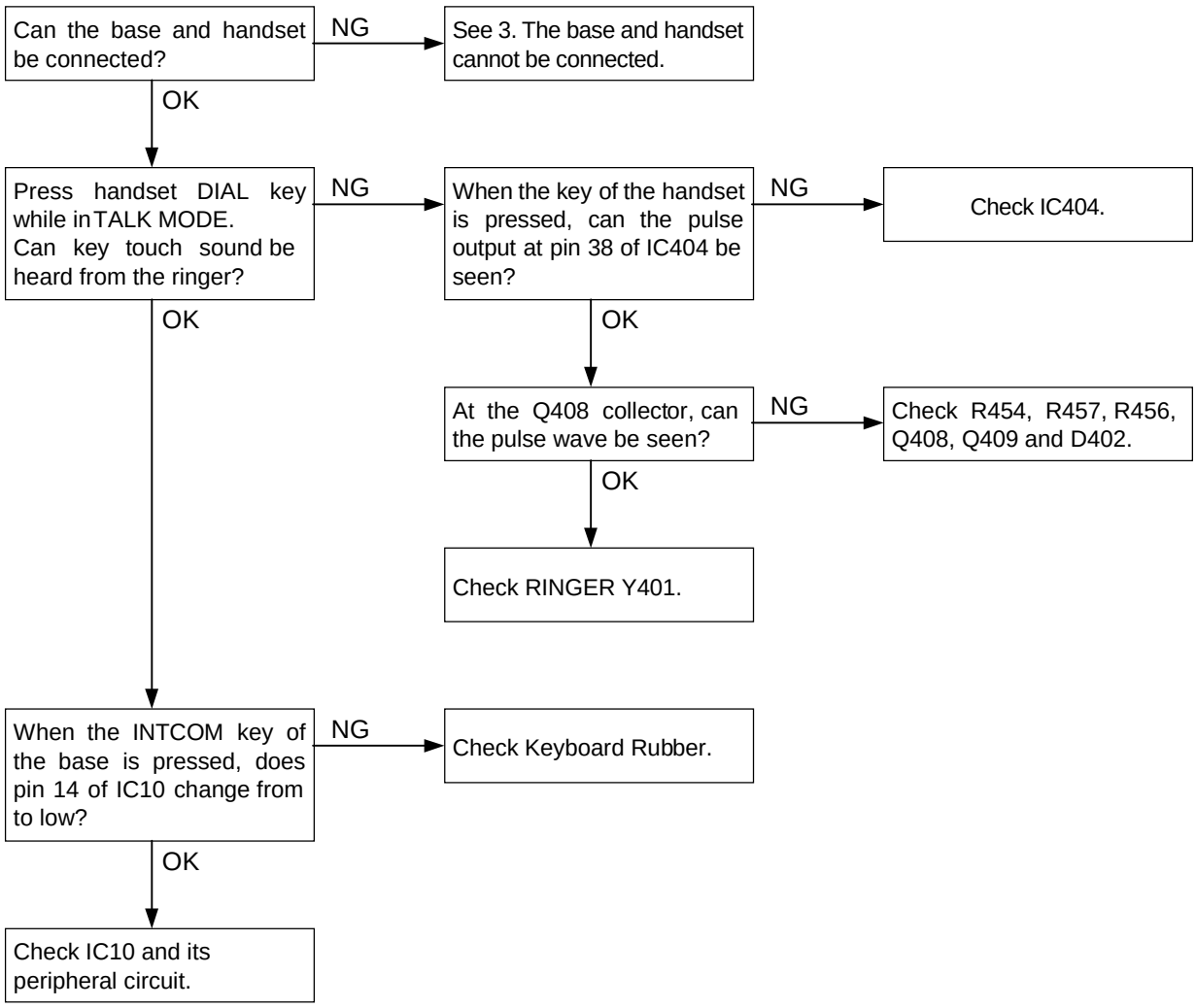
1. RESISTANCE VALUES ARE SHOWN IN OHMS UNLESS OTHERWISE NOTED. (K=K|LO OHM, M=MEG OHM)
2. RESISTOR WATTAGES ARE [1/16W] UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (P=MICRO-MICRO FARAD)
4. CHIP CAPACITORS TYPE ARE [1608] UNLESS OTHERWISE NOTED.
5. CHIP PARTS ARE NOT SPECIFIED IN THIS DRAWING PLEASE REFER TO THE PARTS LIST FOR THE CHIP PARTS.

TROUBLESHOOTING HINTS

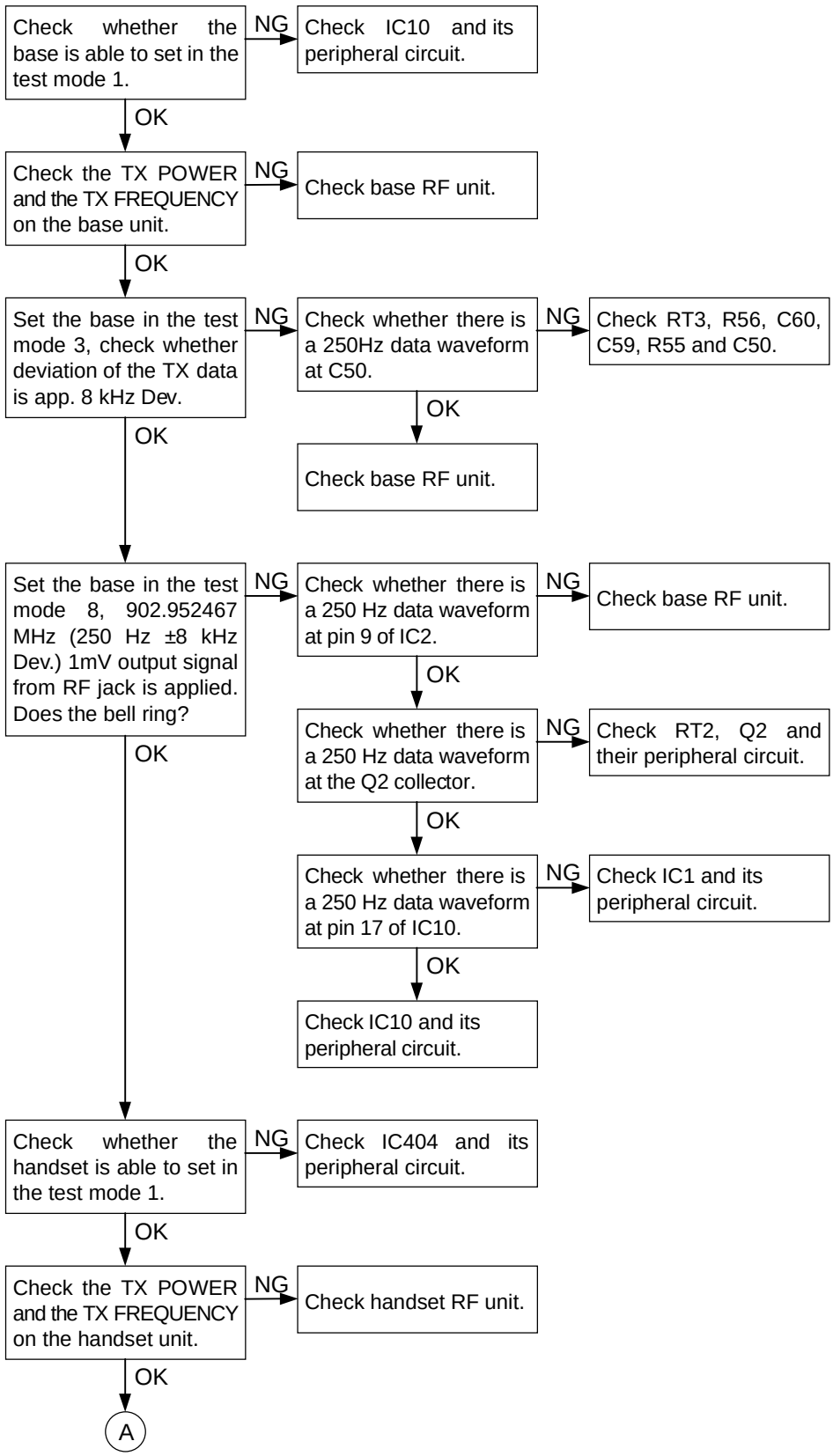
1. The bell does not ring.

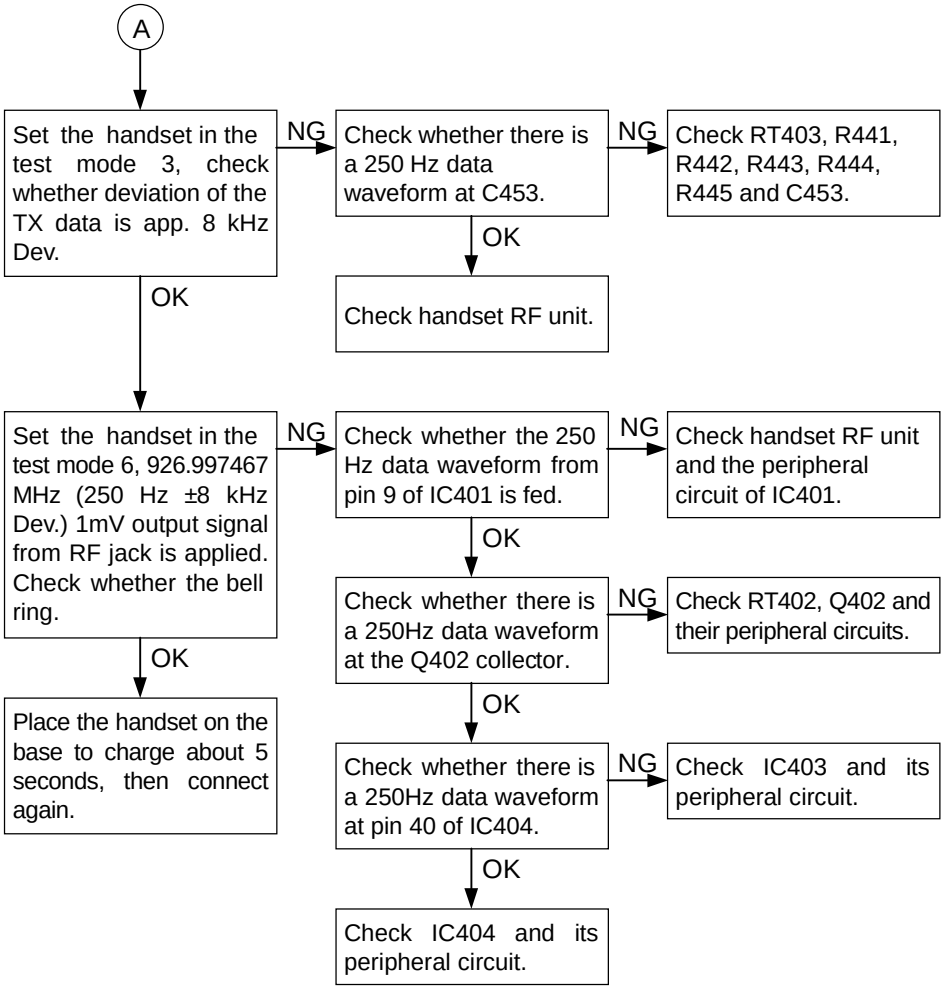

When the INTCOM key of the base is pressed, does the ringer on the handset ring?
NG
See 2. The bell does not ring & page does not ring.
OK
When the TEL SG is joined with the base to make bell signal, is there pulse wave at pin 4 of IC5?
NG
Check IC5 and TEL network circuit.
OK
Is there pulse wave at pin 37 of IC10?
NG
Check R50, R113 and C47.
OK
Check IC10 and its peripheral circuit.

2. The bell does not ring & page does not ring.


Can the base and handset be connected?
NG
See 3. The base and handset cannot be connected.
OK
Press handset DIAL key while in TALK MODE.
Can key touch sound be heard from the ringer?
NG
When the key of the handset is pressed, can the pulse output at pin 38 of IC404 be seen?
NG
Check IC404.
OK
OK
At the Q408 collector, can the pulse wave be seen?
NG
Check R454, R457, R456, Q408, Q409 and D402.
OK
Check RINGER Y401.
When the INTCOM key of the base is pressed, does pin 14 of IC10 change from to low?
NG
Check Keyboard Rubber.
OK
Check IC10 and its peripheral circuit.

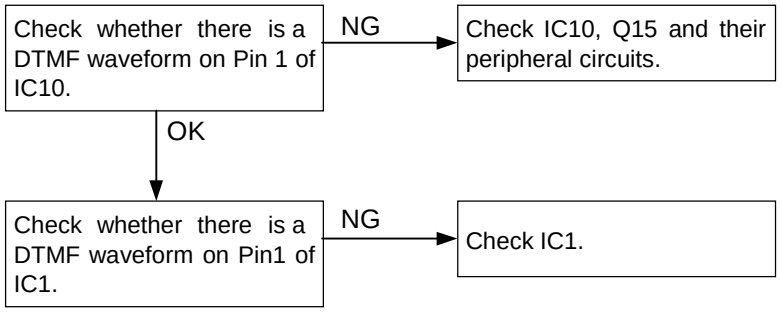
3. The base and handset cannot be connected.


Check whether the base is able to set in the test mode 1.
NG
Check IC10 and its peripheral circuit.
OK
Check the TX POWER and the TX FREQUENCY on the base unit.
NG
Check base RF unit.
OK
Set the base in the test mode 3, check whether deviation of the TX data is app. 8 kHz Dev.
NG
Check whether there is a 250Hz data waveform at C50.
NG
Check RT3, R56, C60, C59, R55 and C50.
OK
Check base RF unit.
OK
Set the base in the test mode 8, 902.952467 MHz (250 Hz ±8 kHz Dev.) 1mV output signal from RF jack is applied. Does the bell ring?
NG
Check whether there is a 250 Hz data waveform at pin 9 of IC2.
NG
Check base RF unit.
OK
Check whether there is a 250 Hz data waveform at the Q2 collector.
NG
Check RT2, Q2 and their peripheral circuit.
OK
Check whether there is a 250 Hz data waveform at pin 17 of IC10.
NG
Check IC1 and its peripheral circuit.
OK
Check IC10 and its peripheral circuit.
OK
Check whether the handset is able to set in the test mode 1.
NG
Check IC404 and its peripheral circuit.
OK
Check the TX POWER and the TX FREQUENCY on the handset unit.
NG
Check handset RF unit.
OK
A

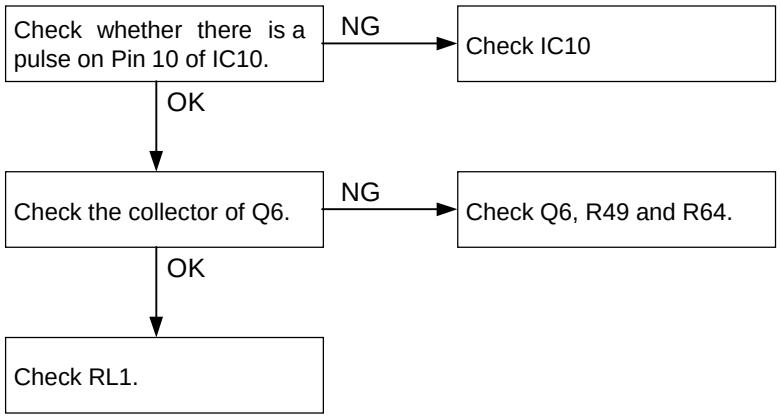

A
Set the handset in the test mode 3, check whether deviation of the TX data is app. 8 kHz Dev.
NG
Check whether there is a 250 Hz data waveform at C453.
NG
Check RT403, R441, R442, R443, R444, R445 and C453.
OK
Check handset RF unit.
OK
Set the handset in the test mode 6, 926.997467 MHz (250 Hz ±8 kHz Dev.) 1mV output signal from RF jack is applied. Check whether the bell ring.
NG
Check whether the 250 Hz data waveform from pin 9 of IC401 is fed.
NG
Check handset RF unit and the peripheral circuit of IC401.
OK
Check whether there is a 250Hz data waveform at the Q402 collector.
NG
Check RT402, Q402 and their peripheral circuits.
OK
Check whether there is a 250Hz data waveform at pin 40 of IC404.
NG
Check IC403 and its peripheral circuit.
OK
Check IC404 and its peripheral circuit.
OK
Place the handset on the base to charge about 5 seconds, then connect again.

4. Will not dial out.

(TONE)

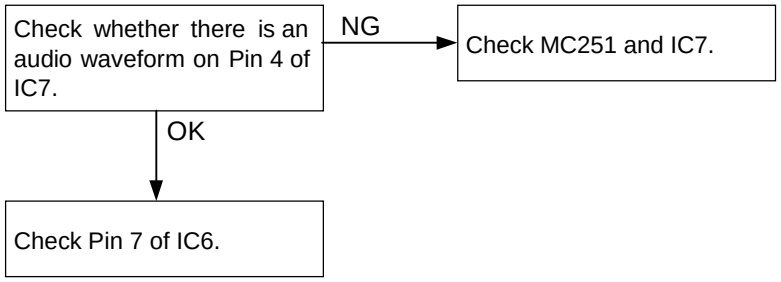

Check whether there is a DTMF waveform on Pin 1 of IC10.
NG
Check IC10, Q15 and their peripheral circuits.
OK
Check whether there is a DTMF waveform on Pin1 of IC1.
NG
Check IC1.

(PULSE)

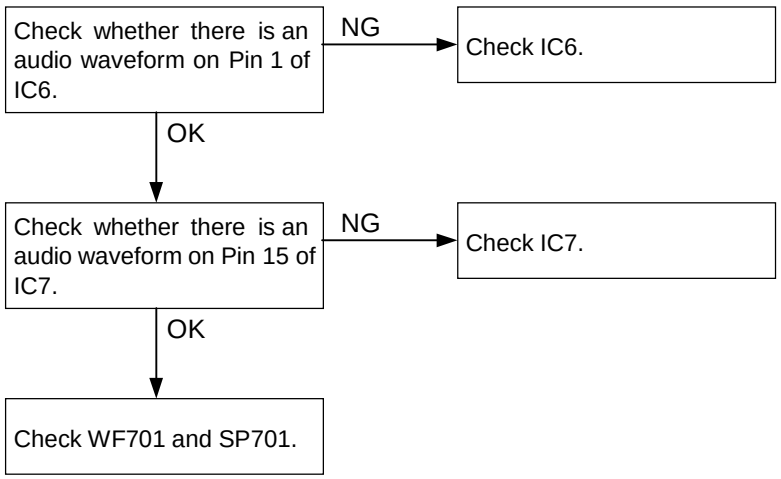


5. TROUBLE WITH INTERCOM MODE

5-1. The voice from the Base unit cannot be heard on the Handset.

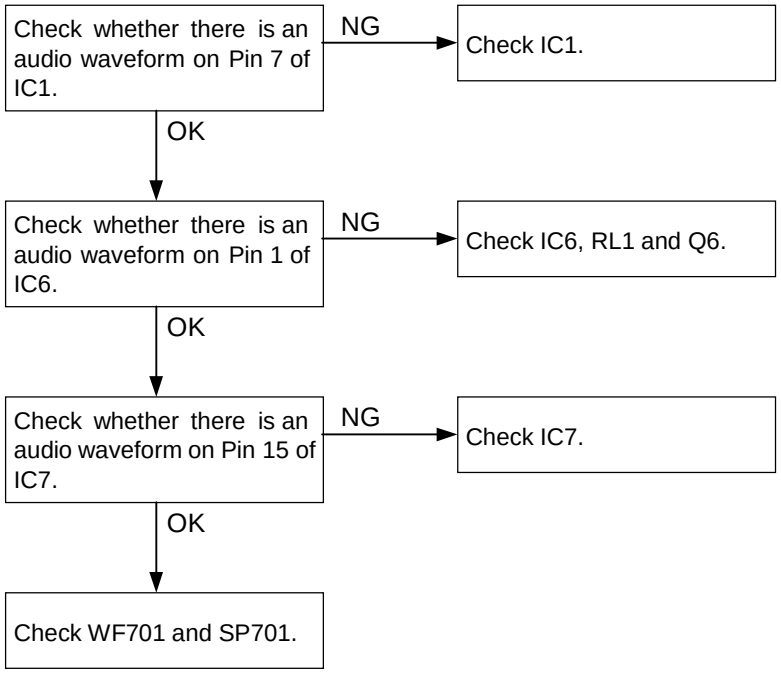


5-2. The voice from the Handset cannot be heard on the Base unit.

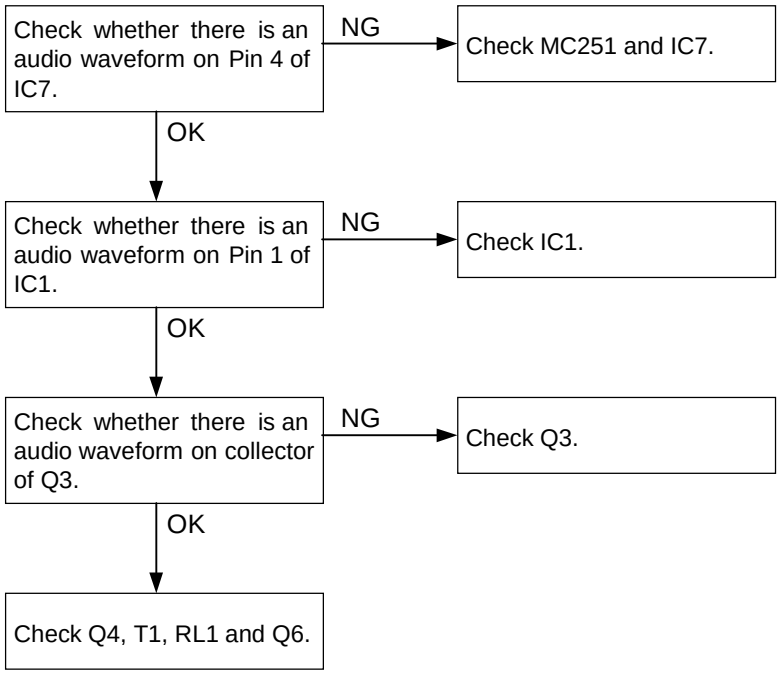

Check whether there is an audio waveform on Pin 1 of IC6.
NG
Check IC6.
OK
Check whether there is an audio waveform on Pin 15 of IC7.
NG
Check IC7.
OK
Check WF701 and SP701.

6. TROUBLE WITH SPEAKERPHONE MODE

6-1. The voice of the caller cannot be heard (INCOMING CALL).


Check whether there is an audio waveform on Pin 7 of IC1.
NG
Check IC1.
OK
Check whether there is an audio waveform on Pin 1 of IC6.
NG
Check IC6, RL1 and Q6.
OK
Check whether there is an audio waveform on Pin 15 of IC7.
NG
Check IC7.
OK
Check WF701 and SP701.

6-2. Voice cannot be transmitted to the calling party (OUTGOING CALL).


Check whether there is an audio waveform on Pin 4 of IC7.
NG
Check MC251 and IC7.
OK
Check whether there is an audio waveform on Pin 1 of IC1.
NG
Check IC1.
OK
Check whether there is an audio waveform on collector of Q3.
NG
Check Q3.
OK
Check Q4, T1, RL1 and Q6.

IC AND TRANSISTOR VOLTAGE CHART

Base Unit

Unit [V]

Ref No.	PIN	STBY	TALK	NOTE
IC1	1	2.1	2.1	
	2	2.1	2.1	
	3	2.1	2.1	
	4	0.0	0.0	GND
	5	2.1	2.1	
	6	2.1	2.1	
	7	2.1	2.1	
	8	5.0	5.0	Vcc
IC2	1	4.1-6.0	4.1-6.0	SINE WAVE
	2	4.0-5.0	4.0-5.0	SINE WAVE
	3	4.8	4.5-5.0	PULSE
	4	5.2	5.2	Vcc
	5	4.8	4.5-5.0	
	6	4.8	4.8	
	7	4.8	4.8	
	8	5.2	5.2	
	9	1.5-3.0	2.0-2.4	
	10	0.7	0.7	
	11	0.3-2.0	0.5-0.8	
	12	0.8	0.8	
	13	5.2	0.0	SQ
	14	0.0	0.0	OPEN
	15	0.0	0.0	GND
	16	5.2	5.2	
IC3	1	2.8	2.8	
	2	2.8	2.8	
	3	2.5-3.0	2.8	
	4	0.8	0.7	
	5	2.8	2.8	OPEN
	6	2.8	2.8	
	7	2.6	2.6	
	8	5.2	5.2	OPEN
	9	0.0	0.0	GND
	10	0.0-5.2	0.0-5.2	PULSE
	11	0.0	0.0	GND
	12	2.7	2.7	
	13	5.2	5.2	
	14	2.7	2.7	
	15	2.7	5.2	
	16	0.0	5.2	RX MUTE
	17	0.0	5.2	TX MUTE
	18	5.2	5.2	OPEN
	19	1.7	1.7	OPEN
	20	2.7	2.7	

Unit [V]

Ref No.	PIN	STBY	TALK	NOTE
IC3	21	0.7	0.7	
	22	2.7	2.7	GND
	23	2.7	2.7	
	24	2.7	2.7	
IC5	1	0	0	FLOAT
	2	0	0	FLOAT
	3	0.0	0.0	GND
	4	5.2	5.2	
IC6	1	2.1	2.1	
	2	2.1	2.1	
	3	2.1	2.1	
	4	0.0	0.0	GND
	5	2.1	2.1	
	6	2.1	2.1	
	7	2.1	2.1	
	8	5.2	5.2	Vcc
IC7	1	2.2	2.2	
	2	2.2	2.2	
	3	1.6	1.6	
	4	2.4	2.4	
	5	2.9	2.9	
	6	2.8	2.8	
	7	2.9	2.9	
	8	2.8	2.8	
	9	2.9	2.9	
	10	2.8	2.8	
	11	2.4	2.4	
	12	2.8	2.8	
	13	2.9	2.9	
	14	0.0	0.0	GND
	15	3.4	3.4	
	16	7.8	7.8	
	17	1.2	1.2	
	18	0.0	0.0	GND
	19	0.0	0.0	
	20	5.5	5.5	
	21	2.9	2.9	
	22	0.0	0.0	GND
	23	0.0	0.0	
	24	2.6	2.6	
	25	5.5	5.5	
	26	2.4	2.4	
	27	1.6	1.6	
	28	2.2	2.2	

Unit [V]

Ref No.	PIN	STBY	TALK	NOTE
IC8	1	6.0	6.0	
	2	0.0	0.0	GND
	3	1.2	1.2	
	4	3.0	3.0	
	5	6.0	6.0	
IC9	1	5.2	5.2	
	2	5.2	5.2	
	3	0.0	0.0	GND
IC10	1	0.0	0.0	
	2	5.2	5.2	
	3	0.0	0.0	GND
	4	0.0	0.0	GND
	5	0.0-0.5.0	0.0-0.5.0	SINE WAVE
	6	-0.4-5.0	-0.4-5.0	SINE WAVE
	7	5.2	5.2	
	8	0.0	0.0	GND
	9	0.0	0.0	GND
	10	0.0	5.2	
	11	0.0-5.2	5.2	
	12	0.0-5.2	5.2	
	13	0.0-5.2	0.0	
	14	5.2	0.0	
	15	0.0	0.0	OPEN
	16	5.2	5.2	
	17	5.2	5.2	
	18	5.2	0.0	SQ
	19	0.0	0.0	GND
	20	0.0-5.2	0.0-5.2	
	21	5.2	5.2	
	22	5.2	0.0	
	23	5.2	5.2	
	24	5.2	5.2	
	25	5.2	5.2	
	26	5.2	5.2	
	27	0.0	0.0	
	28	0.0	0.0	
	29	0.0	0.0	
	30	0.0	0.0	
	31	0.0	0.0	
	32	5.2	5.2	
	33	5.2	5.2	
	34	5.2	5.2	
	35	5.2	5.2	

Unit [V]

Ref No.	PIN	STBY	TALK	NOTE
IC10	36	5.2	5.2	
	37	5.2	5.2	
	38	0.0/5.2	0.0/5.2	Depend on VOL SW
	39	5.2/0.0	5.2/0.0	Depend on VOL SW
	40	0.0/5.2	0.0/5.2	TONE/PULSE
	41	0.0	0.0	
	42	5.2	5.2	
	43	0.0	0.0	
	44	0.0	0.0	
	45	0.0	5.2	TX MUTE
	46	0.0	5.2	RX MUTE
	47	0.0	0.0	
	48	5.2	0.0	
Q1	E	0.2	0.2	
	C	4.5	4.5	
	B	1.0	1.0	
Q2	E	0.2	0.2	
	C	2.8	2.8	
	B	0.8	0.8	
Q3	E	0.0	0.0	
	C	2.8	2.8	
	B	5.2	1.5	
Q4	E	0.7	0.9	
	C	3.8	3.4	
	B	1.4	1.6	
Q5	E	0.0	0.0	
	C	2.0	2.0	
	B	5.2	1.5	
Q6	E	0.0	0.0	GND
	C	9.0	0.0	
	B	0.0	0.4	
Q7	E	1.5	1.5	
	C	0.2	1.5	
	B	1.5	1.5	
Q8	E	0.0	0.0	GND
	C	0.0	0.0	
	B	0.4	0.4	
Q9	E	6.6	6.6	
	C	9.0	9.0	
	B	6.0	6.0	
Q11	E	0.0	0.0	GND
	C	5.2	5.2	
	B	0.0	0.0	

Unit [V]

Ref No.	PIN	STBY	TALK	NOTE
Q12	E	0.7	0.7	
	C	0.0	0.0	
	B	0.0	0.0	
Q13	E	0.0	0.0	GND
	C	5.2	5.2	
	B	0.0	0.0	
Q14	E	5.2	5.2	
	C	0.0	0.0	
	B	2.2	2.2	
Q15	E	2.5	2.5	
	C	5.0	5.0	
	B	3.2	3.2	
Q16	E	2.5	2.5	
	C	2.5	2.5	
	B	5.2	5.2	

Handset

Unit [V]

Ref. No.	PIN	STBY	TALK	NOTE
IC401	1	0.0	2.9	
	2	0.0	2.5	
	3	0.0	2.5	
	4	0.0	3.0	
	5	0.0	2.6	
	6	0.0	2.6	
	7	0.0	2.6	
	8	0.0	3.0	
	9	0.0	0.9	
	10	0.0	0.6	
	11	0.0	0.7	
	12	0.0	0.8	
	13	0.0	0.0	
	14	0.0	0.0	OPEN
	15	0.0	0.0	GND
	16	0.0	3.0	
IC403	1	0-2.0	1.9	
	2	0-2.0	1.9	
	3	0-1.5	1.5	
	4	0-0.4	0.6	
	5	0-0.4	1.5	
	6	0-0.4	1.5	
	7	0-1.8	1.8	
	8	0.0	3.4	
	9	0.0	0.0	GND
	10	0-3.0	1.6	
	11	0.0	0.0	GND
	12	0-1.0	1.5	
	13	0-3.0	3.0	
	14	0.0	1.5	
	15	0.0	1.5	OPEN
	16	0.0	3.4	
	17	0.0	3.4	
	18	0.0	1.5	
	19	0.0	1.5	
	20	0.0	1.5	
	21	0-0.3	0.6	
	22	0.0	1.5	
	23	0.0	1.5	
	24	0.0	1.5	
IC404	1	0.0	0.0	OPEN
	2	3.5	3.4	
	3	0.0	0.0	GND
	4	0.0	0.0	GND

Unit [V]

Ref. No.	PIN	STBY	TALK	NOTE
IC404	5	0.0	2.0(AC)	
	6	0-3.5	2.0(AC)	
	7	3.5	3.4	
	8	0.0	0.0	GND
	9	0.0	0.0	OPEN
	10	0.0	0.0	OPEN
	11	0.0	3.4	
	12	0.0	3.4	
	13	0.0	3.4	
	14	0.0	3.4	
	15	0.0	0.0	
	16	3.5	0-0.3	
	17	0.0	0.0	OPEN
	18	0.0	0.0	OPEN
	19	0.0	0.0	GND
	20	0.0	0.0	OPEN
	21	0.0	0.0	
	22	0.0	0.0	
	23	0.0	0.0	
	24	0.0	0.0	
	25	0.0	0.0	
	26	1.0-3.0	3.4	
	27	1.0-3.0	3.4	
	28	0	0	OPEN
	29	3.8	3.8	
	30	3.5	3.4	
	31	3.5	3.4	
	32	3.5	3.4	
	33	3.5	3.4	
	34	3.5	3.4	
	35	3.8	3.8	
	36	3.8	3.8	
	37	0.0	3.3	
	38	0.0	0.0	
	39	0.0	0.0	
	40	0-3.0	0-3.0	
	41	0	0.0	
	42	0-2.4	0.2	
	43	0.0	0.0	GND
	44	0-0.8	0.8	
	45	0.0	0.0	
	46	0-3.0	0.0	
	47	0-3.0	3.0	
	48	0-3.0	3.0	

Unit [V]

Ref. No.	PIN	STBY	TALK	NOTE
IC405	1	0.0	3.4	
	2	0.0	0.0	GND
	3	0-1.2	1.2	
	4	0-3.0	3.0	
	5	3.8	3.8	
IC406	1	3.8	3.8	
	2	3.8	3.8	
	3	0.0	0.0	GND
	4	3.8	3.8	
	5	3.8	3.8	
Q401	E	0.0	0.0	GND
	C	0-2.0	1.7	
	B	0-0.8	0.7	
Q402	E	0.0	0.0	
	C	0-2.0	1.9	
	B	0-0.8	0.7	
Q403	E	0-3.0	3.0	
	C	0.0	2.9	
	B	0-2.4	2.2	
Q404	E	0.0	0.4	
	C	0.0	1.9	
	B	0.0	1.0	
Q405	E	0.0	0.5	
	C	3.8	2.6	
	B	0.0	1.2	
Q406	E	0.0	0.5	
	C	3.8	2.5	
	B	0.0	1.2	
Q407	E	0.0	0.0	GND
	C	0.0	0.0	
	B	0.0	0.0	
Q408	E	0.0	0.0	
	C	3.8	3.8	
	B	0.0	0.0	
Q409	E	0.0	0.0	GND
	C	0.0	0.0	
	B	0.0	0.0	
Q410	E	0.0	0.0	GND
	C	3.8	3.8	
	B	0.0	0.0	
Q411	E	0.0	0.0	GND
	C	3.5	3.4	
	B	0.0	0.0	

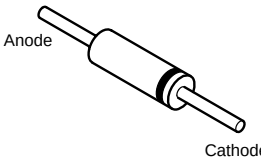
Unit [V]

Ref. No.	PIN	STBY	TALK	NOTE
Q412	E	0.0	3.3	
	C	0-0.5	1.5	
	B	0-0.5	1.5	

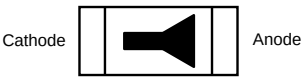
SEMICONDUCTOR LEAD INDENTIFICATION

Base Unit

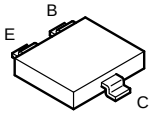
D1 / D2 / D4 / D5 / D7 / D10 : 1N4148
D3 : HZ33-2
D8 : HZ7A1
D9 : HZ9A3



D751 / D755 : SML-310VT
D752 / D753 / D754 : SML-310MT

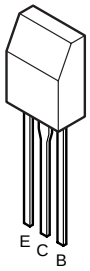


Q1 : 2SC2714
Q2 / Q4 / Q6 / Q8
/ Q11 / Q13 / Q15 : 2SC2712
Q3 / Q5 / Q7 / Q16 : 2SA1162

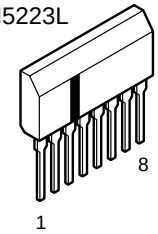


B : Base
E : Emitter
C : Collector

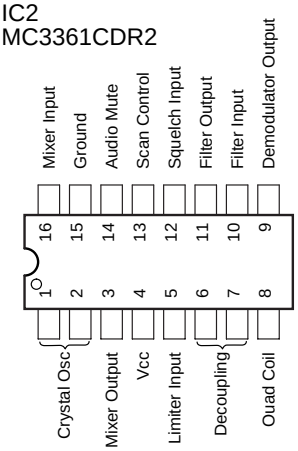
Q9 / Q12 / Q14 : 2SD471



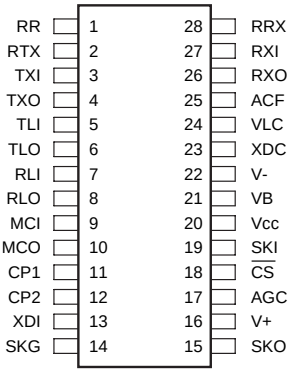
IC1 / IC6
M5223L



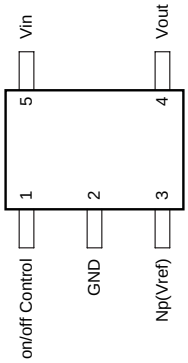
IC2
MC3361CDR2



IC7
MC34018P

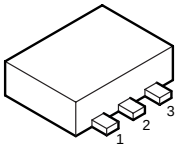


IC8
TK11130SCL

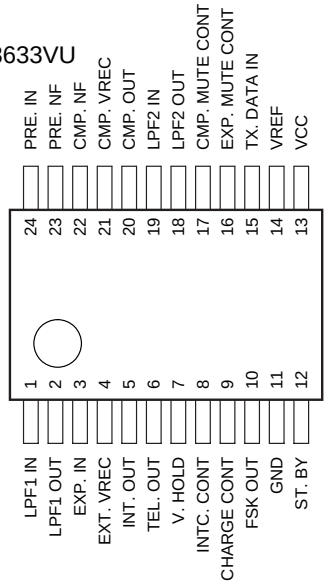


IC5
PC817CD

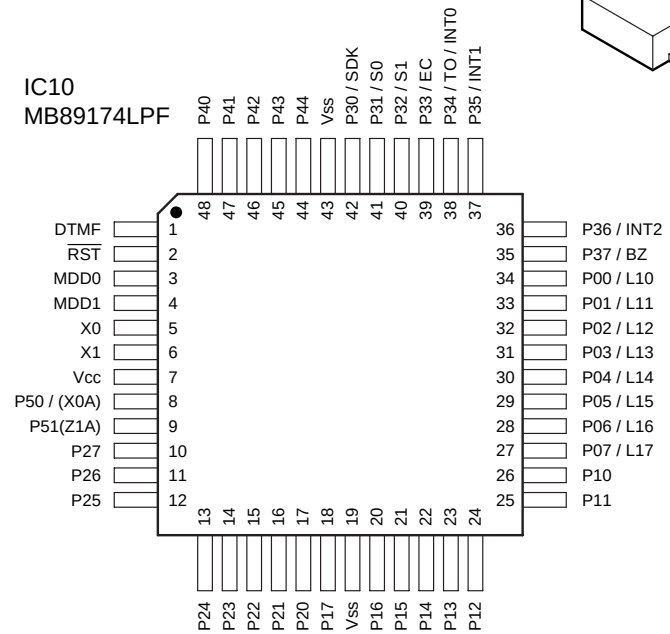
IC9
PH5VL40CA



IC3
LA8633VU



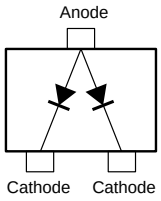
IC10
MB89174LPF



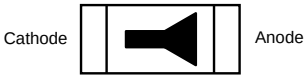
Handset

D401 / D402 / D405 / D406 : RLS4148
D403 / D404 : HZK6C

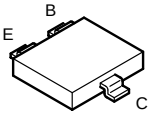
D407 : HSM88WA



D408 : SML-310LT

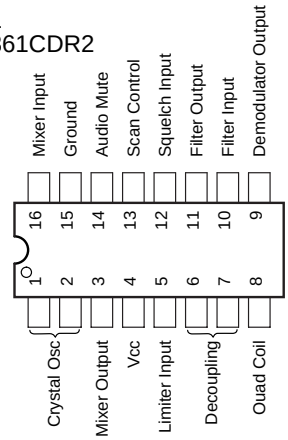


Q401 : 2SC2714
Q402 / Q404 / Q405 / Q406 / Q407
/ Q408 / Q409 / Q410 / Q411 / Q412 : 2SC1623
Q403 : 2SA812(M)

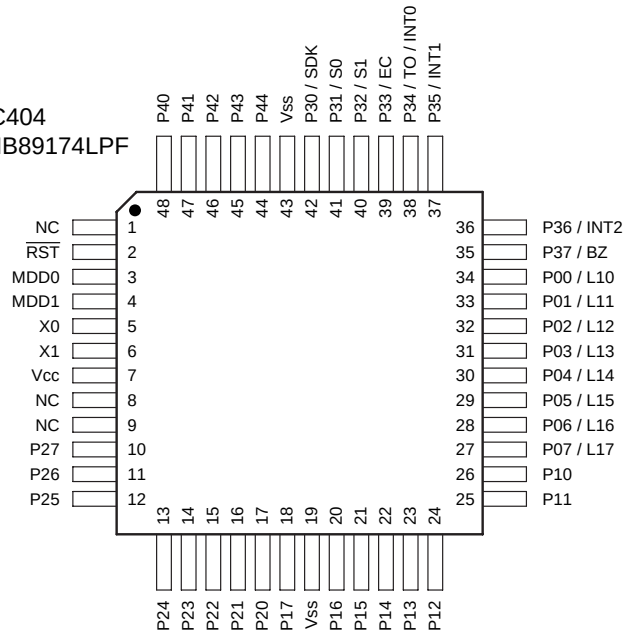


B : Base
E : Emitter
C : Collector

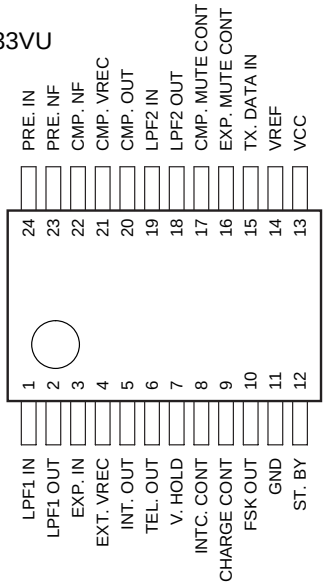
IC401
MC3361CDR2



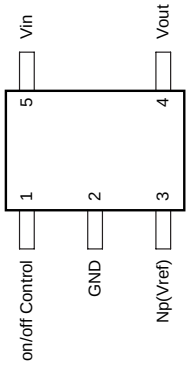
IC404
MB89174LPF



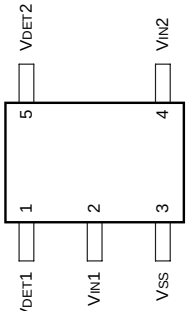
IC403
LA8633VU



IC405
TK11130SCL

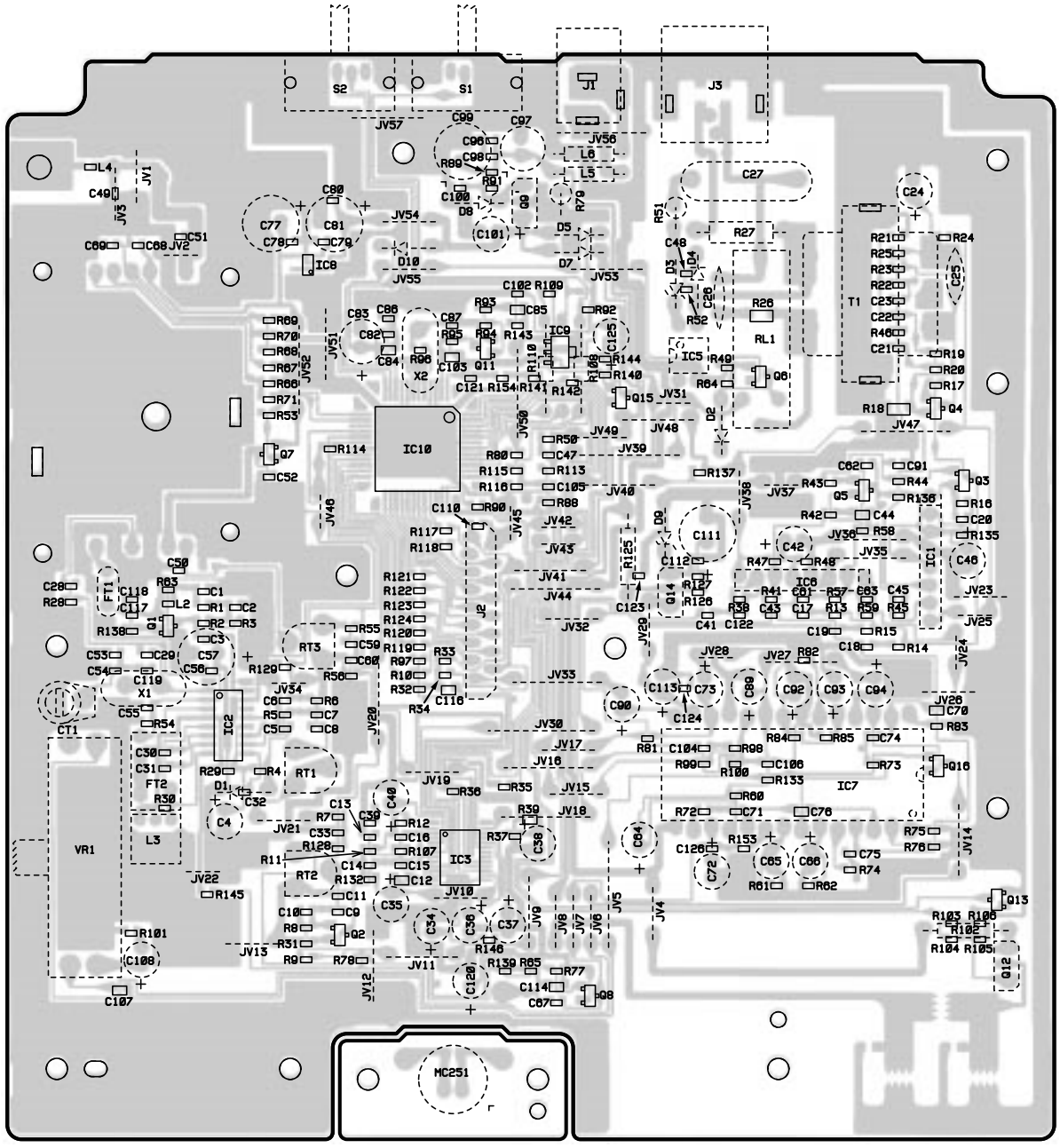


IC406
XC612N3328MR

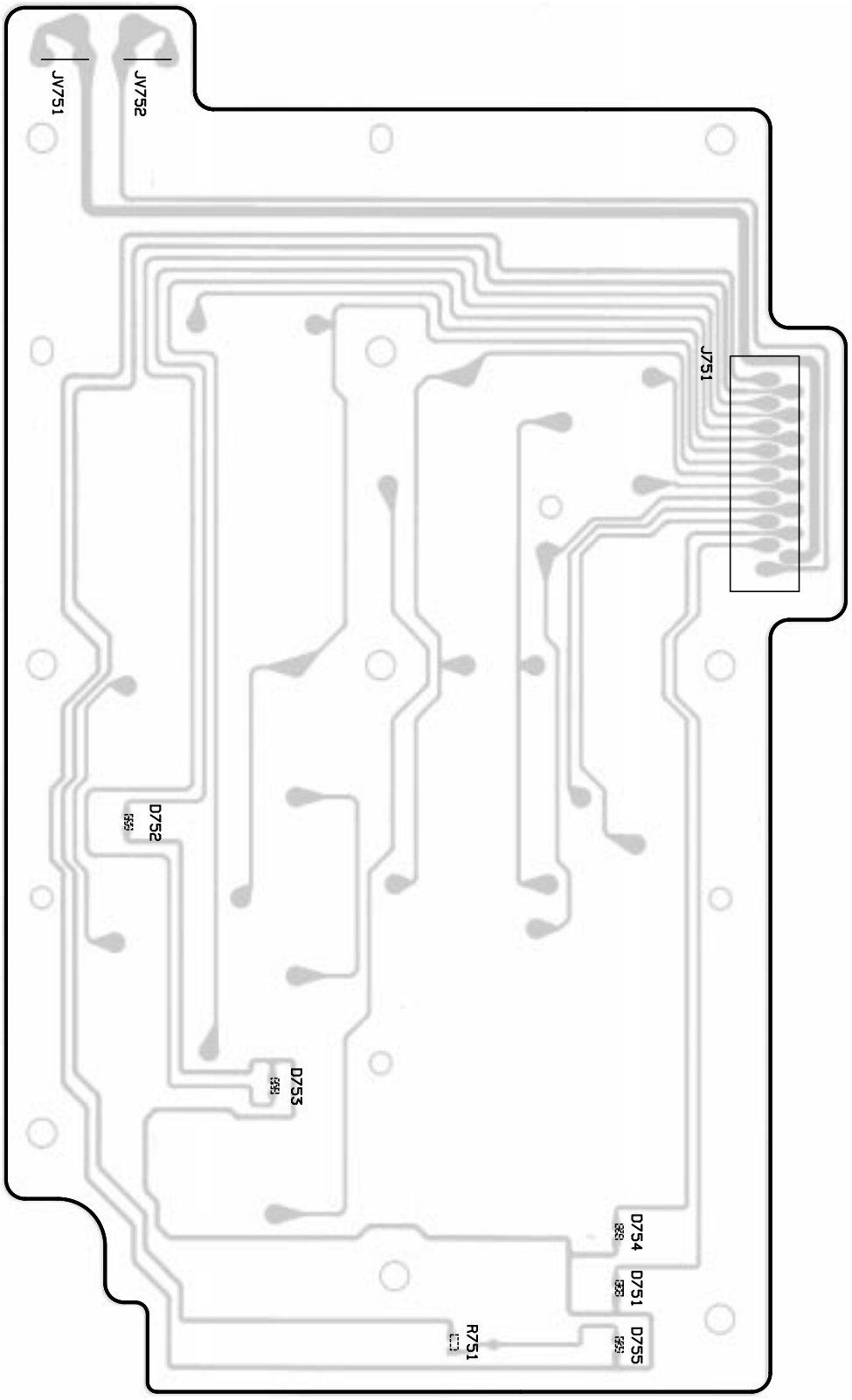


ELECTRICAL PARTS LOCATION

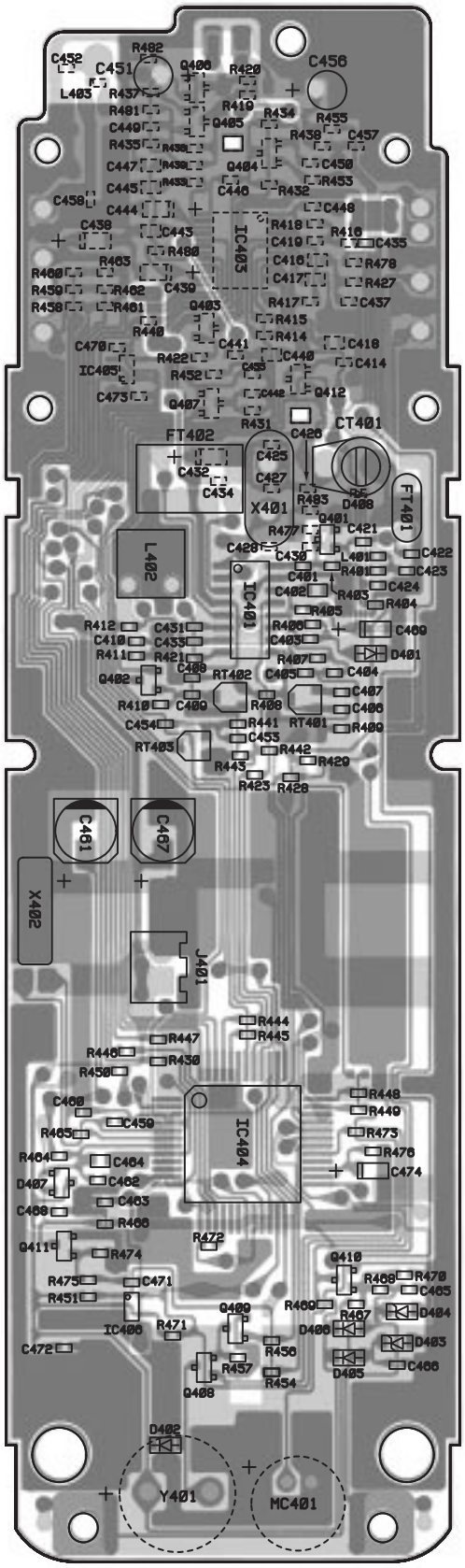
Base Unit
Main PCB



Base Unit
Key PCB

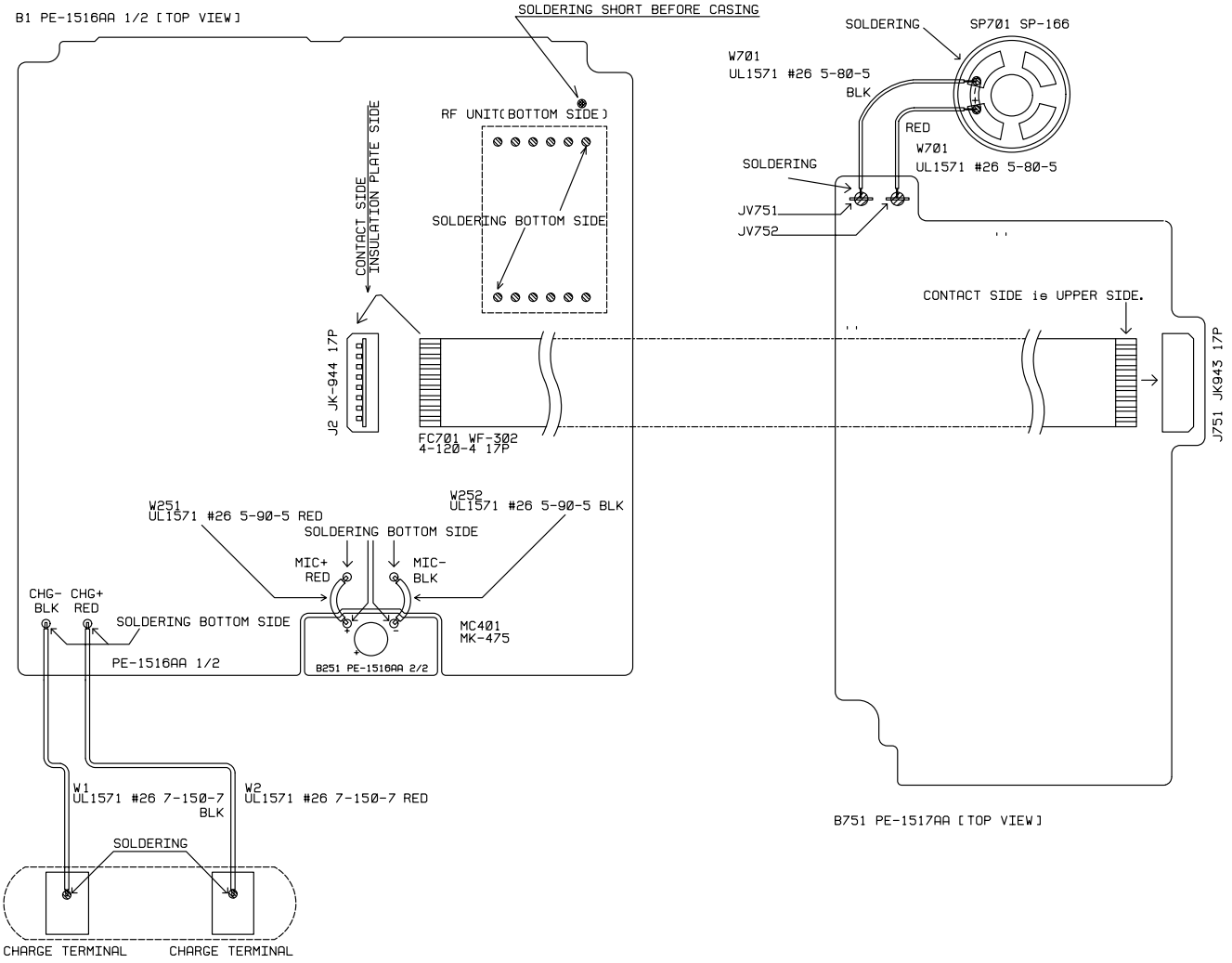


Handset
Main PCB

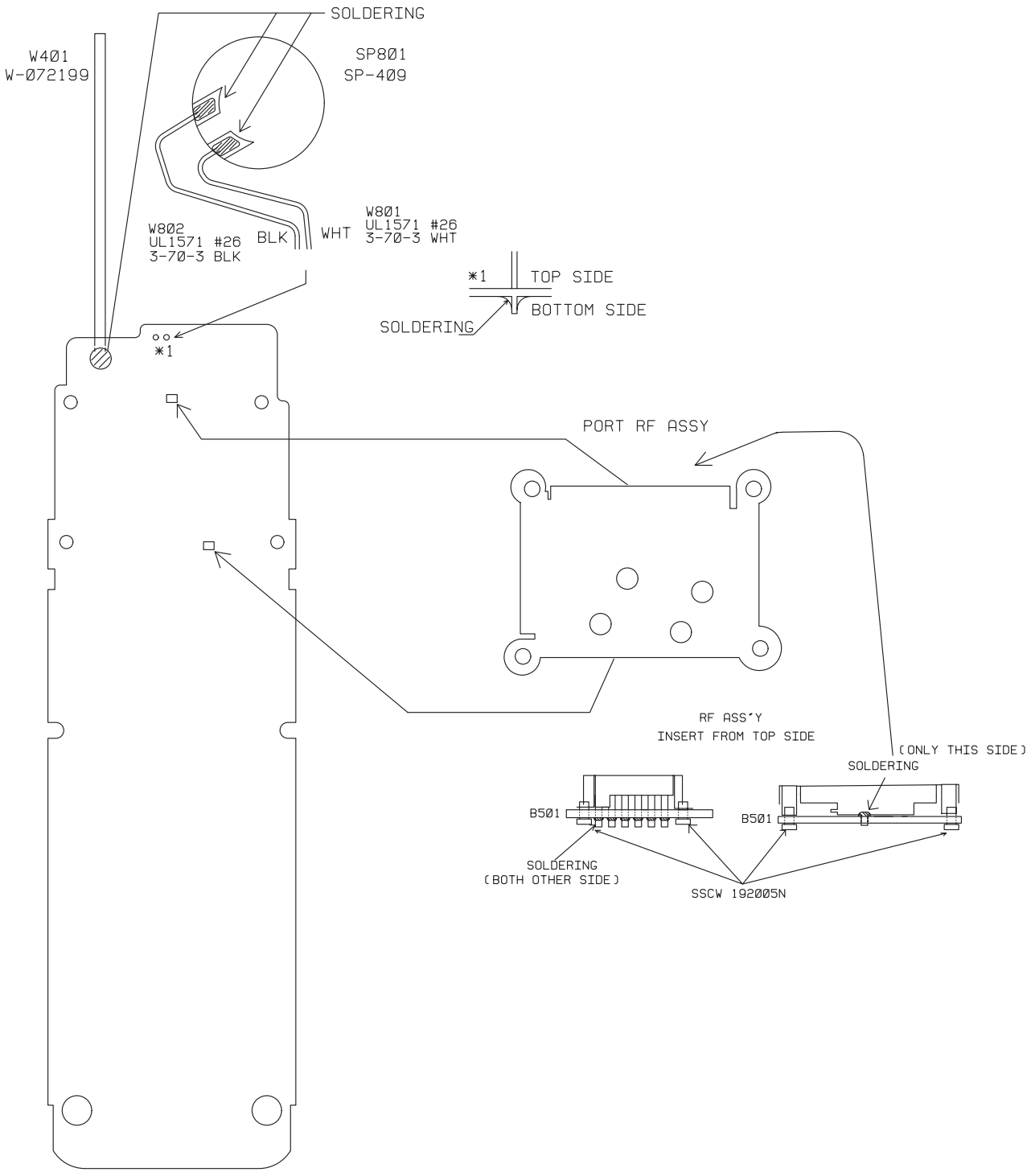


WIRING DIAGRAMS

Base Unit

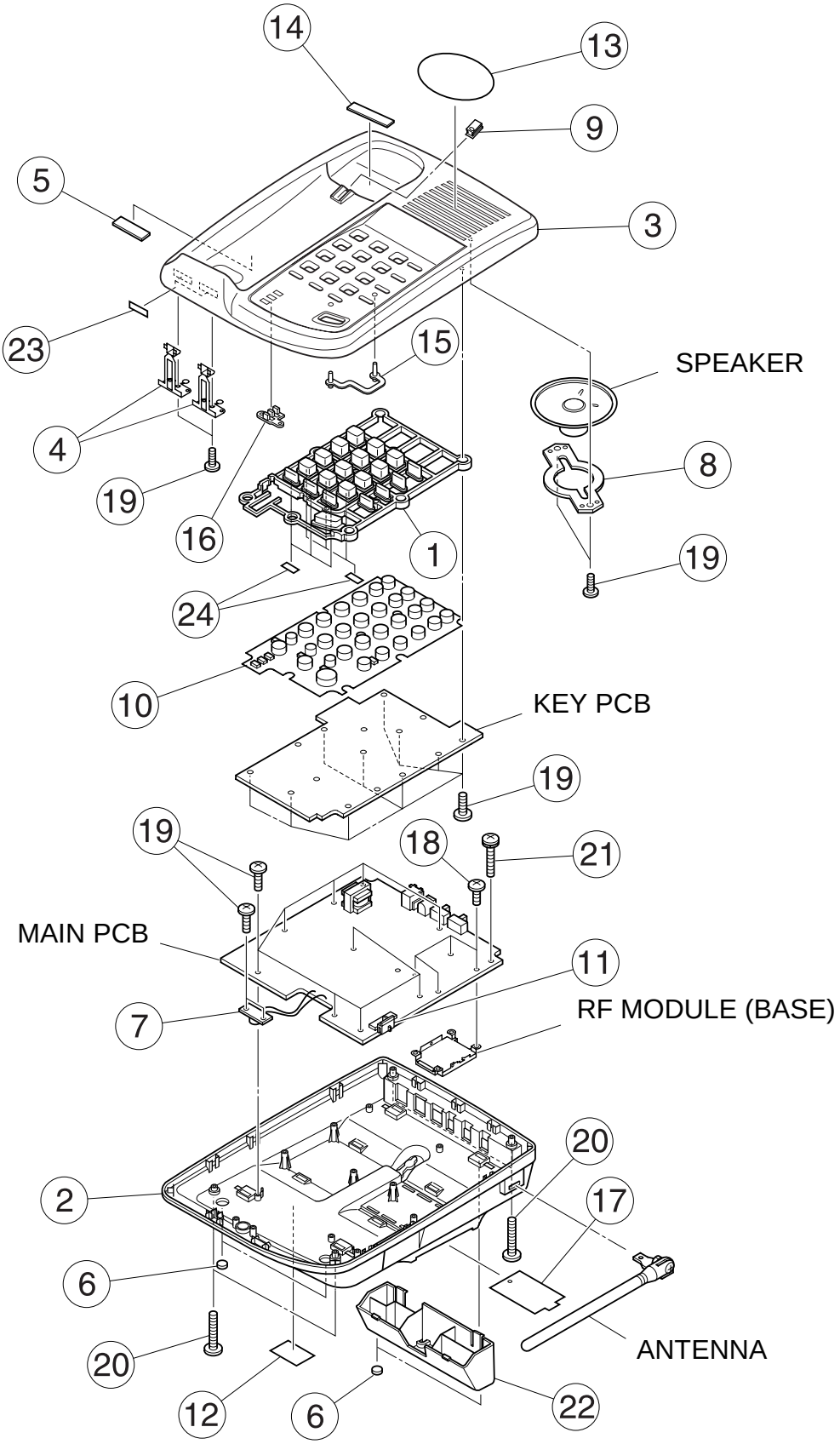


Handset


SOLDERING
W401
W-072199
SP801
SP-409
W801
UL1571 #26
3-70-3 WHT
W802
UL1571 #26
3-70-3 BLK
BLK
WHT
*1
TOP SIDE
BOTTOM SIDE
SOLDERING
*1
PORT RF ASSY
RF ASS'Y
INSERT FROM TOP SIDE
(ONLY THIS SIDE)
SOLDERING
B501
B501
SOLDERING
(BOTH OTHER SIDE)
SSCW 192005N

EXPLODED VIEWS AND MECHANICAL PARTS LIST

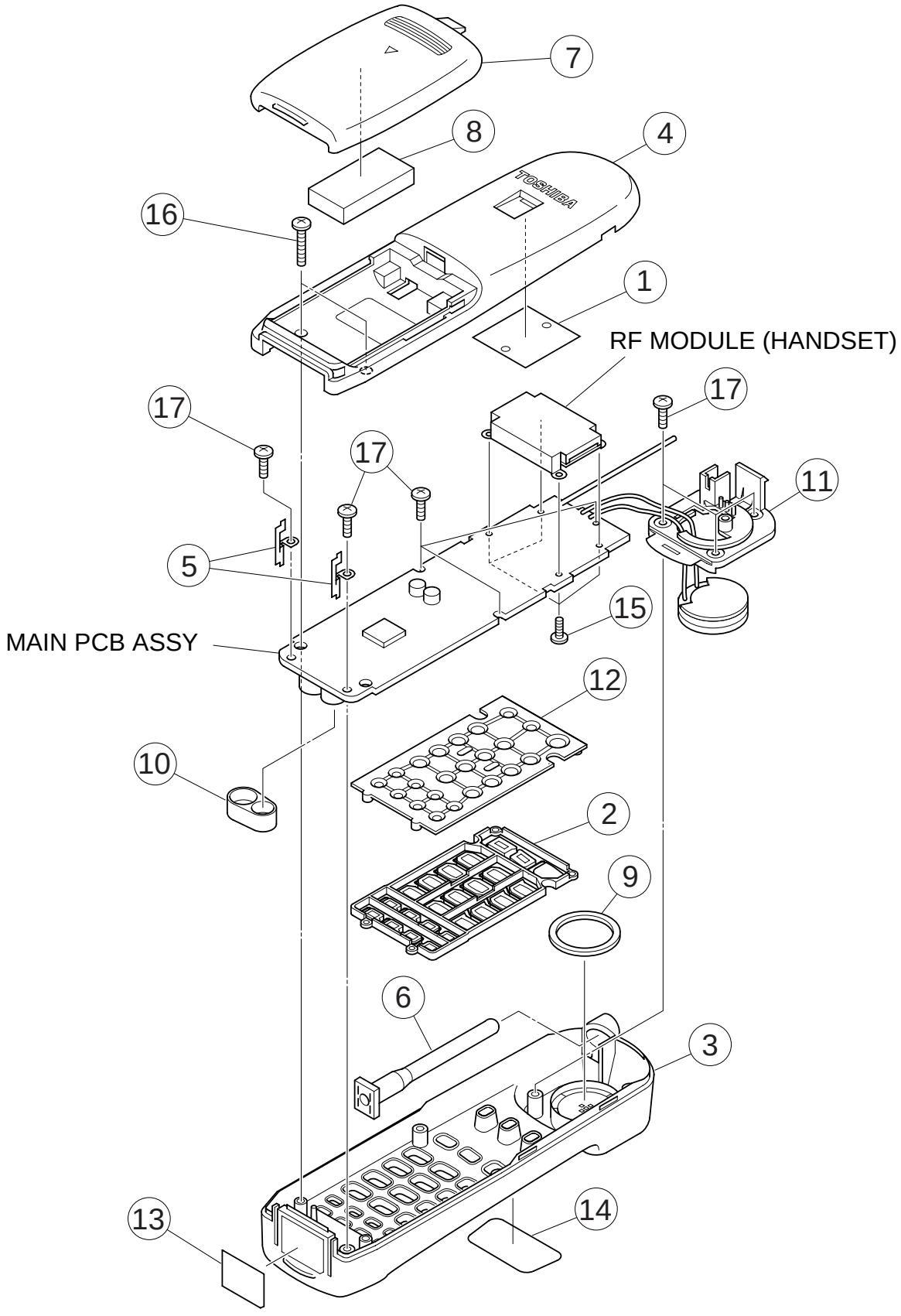
Base Unit



Base Unit

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION		QTY
1	RC008819	GNBZ358191Z	BUTTON, FUNCTION	ABS	1
2	RC008412	GCAS142458Z	CASE, BOTTOM	ABS	1
3	RC008413	GCAS242518B	CASE, TOP	ABS	1
4	RC008414	HTML442750Z	CHARGE TERMINAL	C5191(PBP)	2
5	RC005608	RCUN451804Z	CUSHION	NEOPRENE	1
6	RC002384	LFUT428079Z	FOOT	BUMPON SJ-5916 1.6	4
7	RC005689	LHDZ453179Z	HOLDER, MIC	CR	1
8	RC005444	HHDS431080B	HOLDER, SPEAKER	SUS304 CSP 0.8T 3/4H	1
9	RC005684	GCAS457909Z	HOOK	ABS	1
10	RC005690	LNBZ357883Z	KEY RUBBER	SI	1
11	RC005124	GNBZ455306Z	KNOB, SLIDE	ABS	1
12	RC008415	PLBB442827Z	LABEL, BARCODE	PAPER	1
13	RC008416	PLBZ442826Z	LABEL, INDICATION		1
14	RC005329	PLBZ456718Z	LABEL, INDICATION		1
15	RC005682	GCAS357878Z	LED LENS	PMMA	1
16	RC008818	GCAS458189Z	LED LENS	PMMA	1
17	RC005688	KDPZ457908Z	PLATE, DISPLA	PC	1
18	RC008289	SSCW192005N	SCREW, BIND HD +	M2X5 NI	4
19	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD +	D2.6X8 NI	25
20	RC004028	SSCW802616N	SCREW, P TIGHT BIND HD +	D2.6X16 NI	4
21	RC001752	SSCW283012N	SCREW, TAPPING BIND+& SP WASHER	D3X12 NI	1
22	RC005679	GCAS257876Z	STAND	ABS	1
23	RC005696	RUTC457032Z	WOOL COATED PAPER, WOOL TACK		2
24	RC008902	RBLD451795Z	HIMELON		6

Handset


7
8
4
TOSHIBA
16
1
RF MODULE (HANDSET)
17
17
17
11
5
15
MAIN PCB ASSY
12
10
2
9
6
3
13
14

Handset

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION		QTY
1	RC008346	RBLD442400Z	BLIND	PC	1
2	RC008340	GNBZ342334Z	BUTTON, FUNCTION	ABS	1
3	RC008420	GCAS342787Z	CASE, FRONT	ABS	1
4	RC008338	GCAS242332Z	CASE, REAR	ABS	1
5	RC008342	HTML442336Z	CHARGE TERMINAL	C2680(BSP)	2
6	RC008703	GCAS457897Z	COVER	ELASTOMER	1
7	RC008702	GCAS357889Z	COVER, BATTER	ABS	1
8	RC008347	RCUM441150Z	CUSHION	MOLTPRENE, 40×20×8	1
9	RC008348	RCUN442433Z	CUSHION	NEOPRENE	1
10	RC008709	LHDZ456969Z	HOLDER, MIC	EPDM	1
11	RC008339	GHDZ342333Z	HOLDER, SPEAKER	ABS	1
12	RC008344	LNBZ342335Z	KEY RUBBER	SI	1
13	RC008421	PLBS442828Z	LABEL, ID		1
14	RC008343	KDPZ442337Z	PLATE, DISPLA	PMMA	1
15	RC008289	SSCW192005N	SCREW, BIND HD +	M2×5 NI	4
16	RC003327	SSCW802610N	SCREW, P TIGHT BIND HD +	D2.6×10 NI	2
17	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD +	D2.6×8 NI	8

PARTS LIST

PRODUCT SAFETY NOTE : Products marked with a ⚠ have special characteristics important to safety.
Before replacing any of these components, read carefully the product safety notice of this service manual.
Don't degrade the safety of the product through important servicing.

Symbol	F	G	J	K	M	N	Z	P
%	± 1	± 2	± 5	± 10	± 20	± 30	-20+80	0+100

Symbol	C	D
pF	± 0.25	± 0.5

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
CAPACITORS				
The following codes indicate variation of capacitors against temperatures,: **YA**=±5%, **YB**=±10%, **YD**=+20-30%, **YE**=+20-50%(-25~+85°C), **ZF**=+30-80%,(-10~+79°C), **CH**=0±60ppm/°C, **TH**=-470ppm/°C, ±60ppm/°C, **B**=±10%, **F**=+30-80%, **SL**=+350ppm/°C~-1000ppm/°C, **UJ**=-750ppm/°C ±120ppm/°C, **CJ**=0±120ppm/°C, **CK**=0±250ppm/°C				
C1	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C2	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C3	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C4	RC001807	BCAZ812296Z	ELECTROLYTIC	2.2UF 50V M C-156
C5	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C6	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C7	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C8	RC005217	BCMM813314Z	CERAMIC M/L (1608) TAPE	330PF 50V J CH
C9	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C10	RC005220	BCMM816804Z	CERAMIC M/L (1608) TAPE	68PF 50V J CH
C11	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C12	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C13	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C15	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C16	RC008270	BCML811235Z	CERAMIC M/L (1608) TAPE	0.012UF 50V K B
C17	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C18	RC008146	BCML816825Z	CERAMIC M/L (1608) TAPE	0.0068UF 50V K B
C19	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C20	RC008008	BCMM812714Z	CERAMIC M/L (1608) TAPE	270PF 50V J CH
C21	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C22	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C23	RC008843	BCML313335Z	CERAMIC M/L (1608) TAPE	0.033UF 16V K B
C24	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C25	RC000777	BCZY0120001	SEMI-CONDUCTOR	CZ-120 0.022UF 18V
C26	RC008391	BCKK821025Z	CERAMIC TS 5.0 S	0.001UF 500V K YB(B) TAPE
C27	RC008020	BCZY0260001	MYLAR METALLIZED	CZ-260 0.56UF 250V K
C28	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C29	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C30	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C31	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C32	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C33	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C34	RC001811	BCAZ901016Z	ELECTROLYTIC	100UF 6.3V M C-156
C35	RC004138	BCAZ811006Z	ELECTROLYTIC	10UF 50V M C-156
C36	RC001809	BCAZ814786Z	ELECTROLYTIC	0.47UF 50V M C-156
C37	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C38	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C39	RC005276	BCML818225Z	CERAMIC M/L (1608) TAPE	0.0082UF 50V K B
C40	RC001809	BCAZ814786Z	ELECTROLYTIC	0.47UF 50V M C-156
C41	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C42	RC004138	BCAZ811006Z	ELECTROLYTIC	10UF 50V M C-156

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C43	RC008392	BCML811835Z	CERAMIC M/L (1608) TAPE	0.018UF 50V K B
C44	RC004171	BCXT515635Z	CERAMIC M/L (2125) TAPE	0.056UF 25V K B
C45	RC008757	BCMM818204Z	CERAMIC M/L (1608) TAPE	82PF 50V J CH
C46	RC004138	BCAZ811006Z	ELECTROLYTIC	10UF 50V M C-156
C47	RC008843	BCML313335Z	CERAMIC M/L (1608) TAPE	0.033UF 16V K B
C48	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C49	RC005222	BCMS811091Z	CERAMIC M/L (1608) TAPE	1PF 50V C CK
C50	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C51	RC005289	BCMM815091Z	CERAMIC M/L (1608) TAPE	5PF 50V C CH
C52	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C53	RC005218	BCMM814091Z	CERAMIC M/L (1608) TAPE	4PF 50V C CH
C54	RC005212	BCMM811504Z	CERAMIC M/L (1608) TAPE	15PF 50V J CH
C55	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C56	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C57	RC001798	BCAZ114716Z	ELECTROLYTIC	470UF 10V M C-156
C59	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C60	RC008006	BCML811525Z	CERAMIC M/L (1608) TAPE	0.0015UF 50V K B
C61	RC005418	BCML312735Z	CERAMIC M/L (1608) TAPE	0.027UF 16V K B
C62	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C63	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C64	RC003821	BCAZ514706Z	ELECTROLYTIC	47UF 25V M C-156
C65	RC001805	BCAZ811096Z	ELECTROLYTIC	1UF 50V M C-156
C66	RC001805	BCAZ811096Z	ELECTROLYTIC	1UF 50V M C-156
C67	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C68	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C69	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C70	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C71	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C72	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C73	RC001805	BCAZ811096Z	ELECTROLYTIC	1UF 50V M C-156
C74	RC005274	BCML811535Z	CERAMIC M/L (1608) TAPE	0.015UF 50V K B
C75	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C76	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C77	RC008390	BCAZ811016Z	ELECTROLYTIC	100UF 50V M C-156
C78	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C79	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C80	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C81	RC001796	BCAZ113316Z	ELECTROLYTIC	330UF 10V M C-156
C82	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C83	RC004445	BCAZ903316Z	ELECTROLYTIC	330UF 6.3V M C-156
C84	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C85	RC004412	BCXT312245Z	CERAMIC M/L (2125) TAPE	0.22UF 16V K B
C86	RC005359	BCMM812204Z	CERAMIC M/L (1608) TAPE	22PF 50V J CH
C87	RC005359	BCMM812204Z	CERAMIC M/L (1608) TAPE	22PF 50V J CH
C89	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C90	RC003821	BCAZ514706Z	ELECTROLYTIC	47UF 25V M C-156
C91	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C92	RC001797	BCAZ114706Z	ELECTROLYTIC	47UF 10V M C-156
C93	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C94	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C96	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C97	RC004167	BCAZ511016Z	ELECTROLYTIC	100UF 25V M C-156
C98	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C99	RC002651	BCAZ312216Z	ELECTROLYTIC	220UF 16V M C-156
C100	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C101	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C102	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C103	RC004412	BCXT312245Z	CERAMIC M/L (2125) TAPE	0.22UF 16V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C104	RC008060	BCML811225Z	CERAMIC M/L (1608) TAPE	0.0012UF 50V K B
C105	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C106	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C107	RC002234	BCXT814735Z	CERAMIC M/L (2125) TAPE	0.047UF 50V K B
C108	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C110	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C111	RC002651	BCAZ312216Z	ELECTROLYTIC	220UF 16V M C-156
C112	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C113	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C114	RC002234	BCXT814735Z	CERAMIC M/L (2125) TAPE	0.047UF 50V K B
C116	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C117	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C118	RC005209	BCMM811002Z	CERAMIC M/L (1608) TAPE	10PF 50V D CH
C119	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C120	RC004138	BCAZ811006Z	ELECTROLYTIC	10UF 50V M C-156
C121	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C122	RC008393	BCML812725Z	CERAMIC M/L (1608) TAPE	0.0027UF 50V K B
C123	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C124	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C125	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C126	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C401	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C402	RC005401	BCXT111055Z	CERAMIC M/L (2125) TAPE	1UF 10V K B
C403	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C404	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C405	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C406	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C407	RC005217	BCMM813314Z	CERAMIC M/L (1608) TAPE	330PF 50V J CH
C408	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C409	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C410	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C414	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C416	RC002594	BCXT516835Z	CERAMIC M/L (2125) TAPE	0.068UF 25V K B
C417	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C418	RC002229	BCXT511045Z	CERAMIC M/L (2125) TAPE	0.1UF 25V K B
C419	RC008318	BCML815625Z	CERAMIC M/L (1608) TAPE	0.0056UF 50V K B
C421	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C422	RC005209	BCMM811002Z	CERAMIC M/L (1608) TAPE	10PF 50V D CH
C423	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C424	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C425	RC005224	BCMT813091Z	CERAMIC M/L (1608) TAPE	3PF 50V C CJ
C426	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C427	RC005211	BCMM811204Z	CERAMIC M/L (1608) TAPE	12PF 50V J CH
C428	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C430	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C431	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C432	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C433	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C434	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C435	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C437	RC005206	BCML812225Z	CERAMIC M/L (1608) TAPE	0.0022UF 50V K B
C438	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C439	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C440	RC004449	BCXT311545Z	CERAMIC M/L (2125) TAPE	0.15UF 16V K B
C441	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C442	RC005276	BCML818225Z	CERAMIC M/L (1608) TAPE	0.0082UF 50V K B
C443	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C444	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C445	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C446	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C447	RC004412	BCXT312245Z	CERAMIC M/L (2125) TAPE	0.22UF 16V K B
C448	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C449	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C450	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C451	RC004657	BCEQ514796Z	ELECTROLYTIC	4.7UF 25V M C-125
C452	RC005224	BCMT813091Z	CERAMIC M/L (1608) TAPE	3PF 50V C CJ
C453	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C454	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C455	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C456	RC001045	BCEQ311006Z	ELECTROLYTIC	10UF 16V M C-125
C457	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C458	RC005222	BCMS811091Z	CERAMIC M/L (1608) TAPE	1PF 50V C CK
C459	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C460	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C461	RC003284	BCFZ901016Z	ELECTROLYTIC	100UF 6.3V M C-258
C462	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C463	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C464	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C465	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C466	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C467	RC003284	BCFZ901016Z	ELECTROLYTIC	100UF 6.3V M C-258
C468	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C469	RC008296	BCSH901006Z	TANTALUM CHIP TAPE	10UF 6.3V M C-122
C470	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C471	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C472	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C473	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C474	RC008296	BCSH901006Z	TANTALUM CHIP TAPE	10UF 6.3V M C-122
DIODES				
D1	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D2	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D3	RC002468	BDAY0492008	ZENER AX TS 26 +	HZ33-2 TD
D4	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D5	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D7	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D8	RC003196	BDAY0492025	ZENER AX TS 26 +	HZ7A1 TD
D9	RC008394	BDAY0492042	ZENER AX TS 26 +	HZ9A3 TD
D10	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D401	RC001826	BDAY0433001		RLS4148 TE11
D402	RC001826	BDAY0433001		RLS4148 TE11
D403	RC003195	BDAY0432004	ZENER	HZK6C TR
D404	RC003195	BDAY0432004	ZENER	HZK6C TR
D405	RC001826	BDAY0433001		RLS4148 TE11
D406	RC001826	BDAY0433001		RLS4148 TE11
D407	RC002240	BDAY0485001		HSM88WA TL
D408	RC008320	BDAY1092001	LED	SML-310LT T86
D751	RC008408	BDAY1061001	LED	SML-310VT T86
D752	RC008407	BDAY1060001	LED	SML-310MT T86
D753	RC008407	BDAY1060001	LED	SML-310MT T86
D754	RC008407	BDAY1060001	LED	SML-310MT T86
D755	RC008408	BDAY1061001	LED	SML-310VT T86
FILTERS				
FT1	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL
FT2	RC008280	BFLY0977001		FL-977 LTFS455B5
FT401	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
FT402	RC008280	BFLY0977001		FL-977 LTFS455B5
IC's				
IC1	RC001086	BDEY0582001		M5223L
IC2	RC004870	BDEY2768003		MC3361CDR2
IC3	RC008278	BDEY3870003		LA8633VU-TLM
IC5	RC001640	BDEY1146001		⚠ PC817CD
IC6	RC001086	BDEY0582001		M5223L
IC7	RC001087	BDEY0944001		MC34018P
IC8	RC008322	BDEY3882003		TK11130SCL
IC9	RC005075	BDEY2938003		RH5VL40CA-T1
IC10	RC008395	BDDY0882001	UC2341	MB89174APF-G-251-BND-U
IC401	RC004870	BDEY2768003		MC3361CDR2
IC403	RC008278	BDEY3870003		LA8633VU-TLM
IC404	RC008419	BDDY0883001	UC2342	MB89174LPF-G-252-BND-U
IC405	RC008322	BDEY3882003		TK11130SCL
IC406	RC008323	BDEY3886003		XC612N3328MR
JACKS				
J1	RC001094	BJKY0234001		JK-234 DJ13-1
J2	RC008396	BJKY0944017		JK-944 9604S-17C 17P
J3	RC003586	BJKY0803002	TEL	⚠ JK-803 A36-006-4910A 2P
J401	RC001653	BJKY0571001		JK-571 M60-002-020-HKAD
J751	RC008409	BJKY0943017		JK-943 9604S-17F 17P
COILS				
L2	RC008397	BLZY0136100	INDUCTOR:MOLDED CHIP	LZ-136 MLF1608K100KT 10UH
L3	RC008281	BLBY1175001		LB-1175 7002BE-A0026HM
L4	RC008398	BLZY0181186	INDUCTOR:MOLDED CHIP TAPE	LZ-181 1.8NH
L5	RC004073	BLZY0051479	INDUCTOR:MOLDED	LZ-051 SP0305-4R7K2 4.7UH
L6	RC004073	BLZY0051479	INDUCTOR:MOLDED	LZ-051 SP0305-4R7K2 4.7UH
L401	RC008397	BLZY0136100	INDUCTOR:MOLDED CHIP	LZ-136 MLF1608K100KT 10UH
L402	RC008281	BLBY1175001		LB-1175 7002BE-A0026HM
L403	RC008283	BLZY0181127	INDUCTOR:MOLDED CHIP TAPE	LZ-181 12NH J
T1	RC003234	BTFY0265001	TRANSFORMER:HYBRID	⚠ TF-265AT-24E7-1B/R295403
TRANSISTORS				
Q1	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L
Q2	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q3	RC001081	BDBA1162107		DB-036 2SA1162-G(GR)TE85L
Q4	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q5	RC001081	BDBA1162107		DB-036 2SA1162-G(GR)TE85L
Q6	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q7	RC001081	BDBA1162107		DB-036 2SA1162-G(GR)TE85L
Q8	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q9	RC003200	BDBD0471111		DB-411 2SD471-L
Q11	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q12	RC003200	BDBD0471111		DB-411 2SD471-L
Q13	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q14	RC003200	BDBD0471111		DB-411 2SD471-L
Q15	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q16	RC001081	BDBA1162107		DB-036 2SA1162-G(GR)TE85L
Q401	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L
Q402	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q403	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q404	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q405	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q406	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q407	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q408	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q409	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
Q410	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q411	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q412	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
RESISTORS				
R1	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J TAPING
R2	RC005252	BRFC163314Z	CARBON FIXED CHIP	330 1/16W J TAPING
R3	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R4	RC008766	BRFC161224Z	CARBON FIXED CHIP	1.2K 1/16W J TAPING
R5	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R6	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R7	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R8	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R9	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R10	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R11	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R12	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R13	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R14	RC005432	BRFC161544Z	CARBON FIXED CHIP	150K 1/16W J TAPING
R15	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R16	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R17	RC008027	BRFC161234Z	CARBON FIXED CHIP	12K 1/16W J TAPING
R18	RC008482	BRFC186804Z	CARBON FIXED CHIP	68 1/8W J TAPING
R19	RC008091	BRFC165614Z	CARBON FIXED CHIP	560 1/16W J TAPING
R20	RC008091	BRFC165614Z	CARBON FIXED CHIP	560 1/16W J TAPING
R21	RC005261	BRFC168224Z	CARBON FIXED CHIP	8.2K 1/16W J TAPING
R22	RC005261	BRFC168224Z	CARBON FIXED CHIP	8.2K 1/16W J TAPING
R23	RC005260	BRFC166834Z	CARBON FIXED CHIP	68K 1/16W J TAPING
R24	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R25	RC005259	BRFC166814Z	CARBON FIXED CHIP	680 1/16W J TAPING
R26	RC002335	BRFC183314Z	CARBON FIXED CHIP	330 1/8W J TAPING
R27	RC002350	BRSN101514Z	METAL OXIDE(FORMED)	⚠ 150 1W J (P=12.5)
R28	RC005311	BRFC160004Z	CARBON FIXED CHIP	0 1/16W J TAPING
R29	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R30	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R31	RC005279	BRFC161514Z	CARBON FIXED CHIP	150 1/16W J TAPING
R32	RC005283	BRFC162734Z	CARBON FIXED CHIP	27K 1/16W J TAPING
R33	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R34	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R35	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R36	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R37	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R38	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R39	RC005656	BRFC011064Z	CARBON FIXED CHIP	10M 1/10W J TAPE
R41	RC005285	BRFC165634Z	CARBON FIXED CHIP	56K 1/16W J TAPING
R42	RC005283	BRFC162734Z	CARBON FIXED CHIP	27K 1/16W J TAPING
R43	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R44	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R45	RC008402	BRFC163944Z	CARBON FIXED CHIP	390K 1/16W J TAPING
R46	RC005284	BRFC163334Z	CARBON FIXED CHIP	33K 1/16W J TAPING
R47	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R48	RC008306	BRFC161524Z	CARBON FIXED CHIP	1.5K 1/16W J TAPING
R49	RC008028	BRFC162724Z	CARBON FIXED CHIP	2.7K 1/16W J TAPING
R50	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R51	RC002349	BRSJ221034Z	METAL OXIDE	⚠ 10K 1/2WS J
R52	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R53	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R54	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
R55	RC005311	BRFC160004Z	CARBON FIXED CHIP	0 1/16W J TAPING
R56	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R57	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R58	RC008029	BRFC163924Z	CARBON FIXED CHIP	3.9K 1/16W J TAPING
R59	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R60	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R61	RC008401	BRFC163354Z	CARBON FIXED CHIP	3.3M 1/16W J TAPIMG
R62	RC008734	BRFC162254Z	CARBON FIXED CHIP	2.2M 1/16W J TAPING
R63	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R64	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R65	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R66	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R67	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R68	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R69	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R70	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R71	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R72	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R73	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R74	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R75	RC005284	BRFC163334Z	CARBON FIXED CHIP	33K 1/16W J TAPING
R76	RC005278	BRFC161244Z	CARBON FIXED CHIP	120K 1/16W J TAPING
R77	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R78	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R79	RC008403	BRSJ121004Z	METAL OXIDE	10 1/2W J
R80	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R81	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R82	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J TAPING
R83	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R84	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R85	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R88	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R89	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R90	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R91	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R92	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R93	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R94	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R95	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R96	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R97	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R98	RC008286	BRFC162744Z	CARBON FIXED CHIP	270K 1/16W J TAPING
R99	RC008734	BRFC162254Z	CARBON FIXED CHIP	2.2M 1/16W J TAPING
R100	RC005285	BRFC165634Z	CARBON FIXED CHIP	56K 1/16W J TAPING
R101	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R102	RC005117	BRSJ221804Z	METAL OXIDE BULK	18 1/2WS J
R103	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R104	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R105	RC008029	BRFC163924Z	CARBON FIXED CHIP	3.9K 1/16W J TAPING
R106	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R107	RC008286	BRFC162744Z	CARBON FIXED CHIP	270K 1/16W J TAPING
R108	RC004174	BRPA611024Z	CARBON AX TS 26	1K 1/6W J TAPING
R109	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R110	RC004174	BRPA611024Z	CARBON AX TS 26	1K 1/6W J TAPING
R113	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R114	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R115	RC008766	BRFC161224Z	CARBON FIXED CHIP	1.2K 1/16W J TAPING
R116	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
R117	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R118	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R119	RC005434	BRFC163914Z	CARBON FIXED CHIP	390 1/16W J TAPING
R120	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R121	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R122	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R123	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R124	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R125	RC005659	BRSJ224794Z	METAL OXIDE BULK	4.7 1/2WS J
R126	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R127	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R128	RC005284	BRFC163334Z	CARBON FIXED CHIP	33K 1/16W J TAPING
R129	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R133	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R135	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R136	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R137	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R138	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R139	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R140	RC008027	BRFC161234Z	CARBON FIXED CHIP	12K 1/16W J TAPING
R141	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R142	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R143	RC008734	BRFC162254Z	CARBON FIXED CHIP	2.2M 1/16W J TAPING
R144	RC005251	BRFC163304Z	CARBON FIXED CHIP	33 1/16W J TAPING
R145	RC008765	BRFC161004Z	CARBON FIXED CHIP	10 1/16W J TAPING
R146	RC008765	BRFC161004Z	CARBON FIXED CHIP	10 1/16W J TAPING
R153	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R154	RC008735	BRFC166824Z	CARBON FIXED CHIP	6.8K 1/16W J TAPING
R155	RC005311	BRFC160004Z	CARBON FIXED CHIP	0 1/16W J TAPING
R401	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J TAPING
R403	RC005252	BRFC163314Z	CARBON FIXED CHIP	330 1/16W J TAPING
R404	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R405	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R406	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R407	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R408	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R409	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R410	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R411	RC005282	BRFC162714Z	CARBON FIXED CHIP	270 1/16W J TAPING
R412	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R414	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R415	RC005283	BRFC162734Z	CARBON FIXED CHIP	27K 1/16W J TAPING
R416	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R417	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R418	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R419	RC005247	BRFC162214Z	CARBON FIXED CHIP	220 1/16W J TAPING
R420	RC005247	BRFC162214Z	CARBON FIXED CHIP	220 1/16W J TAPING
R421	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R422	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R423	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R427	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R428	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R429	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R430	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R431	RC005244	BRFC161824Z	CARBON FIXED CHIP	1.8K 1/16W J TAPING
R432	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R433	RC008735	BRFC166824Z	CARBON FIXED CHIP	6.8K 1/16W J TAPING
R434	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
R435	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R436	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R437	RC005254	BRFC164704Z	CARBON FIXED CHIP	47 1/16W J TAPING
R438	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R439	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R440	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R441	RC005285	BRFC165634Z	CARBON FIXED CHIP	56K 1/16W J TAPING
R442	RC005262	BRFC168234Z	CARBON FIXED CHIP	82K 1/16W J TAPING
R443	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R444	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R445	RC005283	BRFC162734Z	CARBON FIXED CHIP	27K 1/16W J TAPING
R446	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R447	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R448	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R449	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R450	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R451	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R452	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R453	RC005361	BRFC168214Z	CARBON FIXED CHIP	820 1/16W J TAPING
R454	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R455	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R456	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R457	RC005247	BRFC162214Z	CARBON FIXED CHIP	220 1/16W J TAPING
R458	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R459	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R460	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R461	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R462	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R463	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R464	RC005246	BRFC162204Z	CARBON FIXED CHIP	22 1/16W J TAPING
R465	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R466	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R467	RC005284	BRFC163334Z	CARBON FIXED CHIP	33K 1/16W J TAPING
R468	RC005284	BRFC163334Z	CARBON FIXED CHIP	33K 1/16W J TAPING
R469	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R470	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R471	RC005257	BRFC164734Z	CARBON FIXED CHIP	47K 1/16W J TAPING
R472	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R473	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R474	RC005286	BRFC165644Z	CARBON FIXED CHIP	560K 1/16W J TAPING
R475	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R476	RC005432	BRFC161544Z	CARBON FIXED CHIP	150K 1/16W J TAPING
R477	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R478	RC005311	BRFC160004Z	CARBON FIXED CHIP	0 1/16W J TAPING
R480	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R481	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R482	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R483	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R499	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R751	RC005434	BRFC163914Z	CARBON FIXED CHIP	390 1/16W J TAPING
RT1	RC008287	BRTY0572204	SEMI-FIXED	RT-572 NVZ6TL1B204 200KB
RT2	RC008404	BRTY0572103	SEMI-FIXED	RT-572 NVZ6TL1B103 10KB
RT3	RC004606	BRTY0572104	SEMI-FIXED	RT-572 NVZ6TL1B104 100KB
RT401	RC008328	BRTY0569224	SEMI-FIXED	RT-569 POZ3AN-1-224N-T00
RT402	RC008326	BRTY0569104	SEMI-FIXED	RT-569 POZ3AN-1-104N-T00
RT403	RC008327	BRTY0569223	SEMI-FIXED	RT-569 POZ3AN-1-223N-T00

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
SWITCHES				
S1	RC003604	BSWY0755001		SW-755 SBHA12B-06
S2	RC003604	BSWY0755001		SW-755 SBHA12B-06
CRYSTALS				
X1	RC008285	BQXY0721001		QX-721 10.100000MHZ
X2	RC003629	BQXY0542001		QX-542 3.579545MHZ
X401	RC008285	BQXY0721001		QX-721 10.100000MHZ
X402	RC008325	BQXY0709001		QX-709 3.579545MHZ
OTHER ELECTRICAL PART				
AD901	RC003328	BADY0318001	AC ADAPTOR	⚠ AD-318 H-A1-2178A
AT701	RC008310	BATY0369001	ANTENNA	⚠ AT-369 AT-36
B301	RC008387	AC218BLBB	RF MODULE (BASE)	
B501	RC008389	AC218BLPB	RF MODULE (HANDSET)	
BT901	RC004931	BBTY0403001	BATTERY	⚠ BT-403 GP60AAK3BMX
CT1	RC008272	BCTY0076100	CAPACITOR:TRIMMER	CT-076 TZ3Z100FR 10PF
CT401	RC008272	BCTY0076100	CAPACITOR:TRIMMER	CT-076 TZ3Z100FR 10PF
FC701	RC008411	BWFY3021205	FLAT CABLE	WF-302 4-120-4 17P
MC251	RC004062	BMKY0475001	MICROPHONE	MK-475 WM-034BZ
MC401	RC004062	BMKY0475001	MICROPHONE	MK-475 WM-034BZ
RL1	RC000867	BRLY0042001	RELAY	⚠ RL-042 OMR-108H
SP701	RC001282	BSPY0166001	SPEAKER	SP-166 C060A20G0060
SP801	RC008336	BSPY0409001	SPEAKER	⚠ SP-409 DTR169HP-005
VR1	RC003233	BRVY0801001	RESISTOR VARIABLE	RV-801 RS15M11AJ(10KB)
W1	RC008359	CUQK015033Z	WIRE W-005	UL 1571 #26 7-150- 7 BLK
W2	RC008358	CUQB015033Z	WIRE W-005	UL 1571 #26 7-150- 7 RED
W251	RC008405	CUQB009022Z	WIRE W-005	UL 1571 #26 5- 90- 5 RED
W252	RC008406	CUQK009022Z	WIRE W-005	UL 1571 #26 5- 90- 5 BLK
W401	RC008329	CZDZ072199Z	WIRES ASSEMBLED	W-072199
W701	RC008417	CUQB008022Z	WIRE W-005	UL 1571 #26 5- 80- 5 RED
W702	RC008418	CUQK008022Z	WIRE W-005	UL 1571 #26 5- 80- 5 BLK
W801	RC008350	CUQJ007011Z	WIRE W-005	UL 1571 #26 3- 70- 3 WH
W802	RC001338	CUQK007011Z	WIRE W-005	UL 1571 #26 3- 70- 3 BLK
WA901	RC008231	BWZY1401001	CORD:TEL	⚠ WZ-1401 1850 W/P
Y401	RC008787	BYYY1392001	BUZZER	YY-1392 ST-1285 APH
PACKING PARTS				
	RC008427	WSLV482644Z	AIR BAG	
	RC005198	UDZZ73535ZZ	CAUTION BELT	
	RC004291	WETC420086Z	COVER:ANT.	EPE
	RC008230	WBXZ342538Z	DISPLAY BOX	
	RC008422	RETC443314Z	DOUBLE SIDED TAPE	
	RC008223	PLBM442785Z	INDEX PAPER	PAPER
	RC008716	PLBM458145Z	INDEX PAPER	PAPER
	RC004688	PLBB454286Z	LABEL:BARCODE	PAPER
	RC004689	PLBB454287Z	LABEL:BARCODE	PAPER
	RC008224	UCZZ01220BA	OWNER'S MANUAL	
	RC008225	UCZZ69220BZ	QUICK REFERENCE GUIDE	
	RC008424	WCTZ442539Z	SHIPPING CARTON BOX	
	RC008425	WSLV342836Z	SLEEVE	
	RC008426	WSLV443144Z	SLEEVE	
	RC008719	VNYH1103000	VINYL BAG	100×300×0.05T HIPE
	RC005455	VNYH1304000	VINYL BAG	300×400×0.05T HIPE
	RC008783	VNYL2304060	VINYL BAG	300×400×600×0.07
	RC008353	VNYL3101000	VINYL BAG	100×100×0.1
	RC008423	VNYL3102500	VINYL BAG	100×250X0.1

ASSEMBLY PARTS LIST

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
	RC008428	AC220BLBA	MAIN PCB ASSEMBLY, BASE
	RC008429	AC220BLBC	KEY PCB ASSEMBLY, BASE
	RC008430	AC220BLPA	MAIN PCB ASSEMBLY, HANDSE

SPECIFICATIONS

MEASUREMENT CONDITIONS

1. Standard Voltage :Portable Unit .... DC 3.8V ± 0.025V
   :Base Unit .... AC 120V ± 3V 60Hz
2. Temperature :25℃ ± 5℃
3. Channel

FCC CH	Portable(TX Frequency)	Base(TX Frequency)
1	902.052464MHz	925.997470MHz
2	902.102465MHz	926.047470MHz
3	902.152465MHz	926.097470MHz
4	902.202465MHz	926.147470MHz
5	902.252465MHz	926.197470MHz
6	902.302465MHz	926.247469MHz
7	902.352465MHz	926.297469MHz
8	902.402465MHz	926.347469MHz
9	902.452465MHz	926.397469MHz
10	902.502466MHz	926.447469MHz
11	902.552466MHz	926.497469MHz
12	902.602466MHz	926.547469MHz
13	902.652466MHz	926.597469MHz
14	902.702466M z	926.647468MHz
15	902.752466MHz	926.697468MHz
16	902.802466MHz	926.747468MHz
17	902.852467MHz	926.797468MHz
18	902.902467MHz	926.847468MHz
19	902.952467MHz	926.897468MHz
20	903.002467MHz	926.947468MHz
21	903.052467MHz	926.997467MHz
22	903.102467M z	927.047467MHz
23	903.152467MHz	927.097467MHz
24	903.202468MHz	927.147467MHz
25	903.252468MHz	927.197467MHz
26	903.302468MHz	927.247467MHz
27	903.352468MHz	927.297467MHz
28	903.402468MHz	927.347466MHz
29	903.452468MHz	927.397466MHz
30	903.502468M z	927.447466MHz
31	903.552468MHz	927.497466MHz
32	903.602469MHz	927.547466MHz
33	903.652469MHz	927.597466MHz
34	903.702469MHz	927.647466MHz
35	903.752469MHz	927.697466MHz
36	903.802469MHz	927.747465MHz
37	903.852469MHz	927.797465MHz
38	903.902469M z	927.847465MHz
39	903.952470MHz	927.897465MHz
40	904.002470MHz	927.947465MHz

4. Tel. Line Voltage/Load : DC 48V ± 2V / 600 OHMS
5. Ring Frequency : 20 Hz
6. Ring Duration : 2 Sec ON, 4 Sec OFF
7. Standard Deviation : 1KHz ± 8KHz Dev.
8. Secure Code : 65536 Combination
9. Method of Measurement : According to EIA Standard RS-316A
10. Portable RX AF Load : 150 OHMS
11. Base RX Load : 32 OHMS

BASE UNIT

RECEIVER		UNIT	NOMINAL	LIMIT
1. Sensitivity 12 dB SINAD	with CCITT Filter	dBm	-115	< -107
2. Frequency Response (Ref:1kHz)	0.3kHz	dB	-3.0	-7.0~+1.0
	3.0kHz	dB	-2.5	-6.5~+1.5
3. Distortion at 1 mV RF Input		%	1.5	< 5
4. S/N ratio at 1 mV RF Input	with CCITT Filter	dB	75	65 <
5. Selectivity (NQ20dB)	6dB Bandwidth +	kHz	15	10 <
	6dB Bandwidth -	kHz	15	10 <
6. Tel Line Output Level (600Ω Load)		dBm	-11	-14~-8
7. Bell Ringer Level at 30cm from Speaker				
Frequency: 1.0kHz + 2.0kHz HI		dBSPL	83	75 <
8. Intercom Ringer Level at 30cm from Speaker				
Frequency: 1.0kHz	Called from H/S	dBSPL	75	70 <
	Call to H/S	dBSPL	59	HI LEVEL -16dB ±3dB

TRANSMITTER		UNIT	NOMINAL	LIMIT
1. RF Power (50Ω Load)		dBm	-5.0	-8.0~-2.0
2. Modulation Sensitivity		dBm	-20	-24~-16
3. Frequency Response (Ref:1kHz)	0.3kHz	dB	0	-4.0~+4.0
	3.0kHz	dB	-1.5	-5.5~+2.5
4. Frequency Tolerance (25°C)		Hz	0	-2500~+2500
5. Code Deviation		kHz	8.0	< 11
6. Distortion		%	1.5	< 5
7. S/N Ratio	with CCITT Filter	dB	40	30 <

TELEPHONE LINE	UNIT	NOMINAL	LIMIT
1. Off-hook Impedance (at 1kHz)	OHM	900	500~1500
2. Off-hook DC Resistance (DC 40mA)	OHM	250	100~300
3. On-hook Impedance 20Hz (75Vrms)	kOHM	21	10 <
4. Minimum Ringer Input Level	Vrms	23	< 40
5. Pulse Dialing			
a. Dialing Rate (@10pps)	pps	10	8~11
b. Make Ratio (@10pps)	%	40	36~42
6. DTMF Output (@600Ω Load)			
a. Minimum Level of SingleTone			
Low Group	dBm	-7	-10 <
High Group	dBm	-5	-8 <
b. DTMF Level	dBm	-3	< 0
c. DTMF Frequency			
Row 1	Hz	697	687~707
Row 2	Hz	770	759~781
Row 3	Hz	852	840~864
Row 4	Hz	941	927~955
Column 1	Hz	1209	1191~1227
Column 2	Hz	1336	1316~1356
Column 3	Hz	1477	1455~1499
d. Signal Length	mSec	100	90 <
e. Interdigital Pause	mSec	100	80 <

SPEAKER PHONE	UNIT	NOMINAL	LIMIT
1. Microphone Sensitivit	mV	1.4	0.8~2.3
(-20dBm TEL Output, set to MIC Gain is MAX and SPEAKER Gain is MIN.)			
2. Receiver Response Audio Out	mV	1650	1000 <
(Audio Output at -20dBm TEL Input:20 Pin and 25 Pin at IC7 is Shout.)			

INTERCOM	UNIT	NOMINAL	LIMIT
1. Microphone Sensitivit	mV	1.4	0.8~2.3
(1kHz±6.0kHz Dev., set to MIC Gain is MAX and SPEAKER Gain is MIN.)			
2. Receiver Response Audio Out(1kHz ±8kHz Dev.)	mV	760	480 <

PORTABLE UNIT

RECEIVER		**UNIT**	**NOMINAL**	**LIMIT**
1. Sensitivity 12 dB SINAD	with CCITT Filter	dBm	-115	< -107
2. Frequency Response (Ref:1kHz)	0.3kHz	dB	-2.0	-6.0~+2.0
	3.0kHz	dB	-4.0	-8.0~+0.0
3. Audio Output Level	VOL. HAC	mV	229	162~324
	VOL. HIGH	mV	128	91~192
	VOL. LOW	mV	51	36~72
4. Distortion at 1 mV RF Input		%	2.0	< 5
5. S/N ratio at 1 mV RF Input	with CCITT Filter	dB	70	60 <
6. Selectivity (NQ20dB)	Bandwidth +	kHz	15	10 <
	Bandwidth -	kHz	15	10 <
7. Bell Ringer Level at 30cm from Speaker				
	2 TONE VOL HI	DBSPL	80	75 <
	2 TONE VOL LO	DBSPL	70	60 <
	3 TONE VOL HI	DBSPL	70	60 <
	3 TONE VOL LO	DBSPL	60	50 <
8. Intercom Ringer Level at 30cm from Speaker				
	Called from B/U	dBSPL	82	75 <
	Call To B/U	dBSPL	70	HI LEVEL -12dB ± 3dB

TRANSMITTER		**UNIT**	**NOMINAL**	**LIMIT**
1. RF Power (50Ω Load)		dBm	-7.5	-10.5~-4.5
2. Modulation Sensitivity		mV	9	6.5~13
3. Frequency Response (Ref:1kHz)	0.3kHz	dB	-1.5	-5.5~+2.5
	3.0kHz	dB	-1.5	-5.5~+2.5
4. Frequency Tolerance (25°C)		Hz	0	-2500~+2500
5. Code Deviation		kHz	8.0	< 11
6. Distortion		%	1.5	< 5
7. S/N Ratio	with CCITT Filter	dB	40	30 <

POWER CONSUMPTION	**UNIT**	**NOMINAL**	**LIMIT**
1. Base Unit			
a. Stand-by Charge Off	mA	110	< 130
b. Stand-by Charge On	mA	195	175~215
c. Talk	mA	150	< 170
2. Charge Current (at BATTERY)	mA	50	35~65
3. Portable Unit			
a. Stand-b	mA	2.3	< 4
b. Talk	mA	70	< 105
4. Battery Low Detect Voltage	V	3.3	3.2~3.4

OTHERS

1. Battery : Ni-Cd Battery 600mAH (@1.2V × 3 = 3.6V)
2. Memory
   - Base : 10 Memories (16 Digits) + 1 Redial Memory (32 Digits)
   - Handset : 12 Memories (16 Digits) + 1 Redial Memory (32 Digits)
3. Operating Temperature : -10°C ~ +50°C
4. Storage Temperature : -20°C ~ +60°C

REQUIREMENTS COMPLIANC

1. Unit is designed to fully meet with UL1459 and FCC Rules, Part 15 and 68

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